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## ORIGINAL ARTICLES.

### SPRAINED ANKLES.

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In view of the frequency of their occurrence, of the painful and distressing symptoms they provoke, and of the unfortunate results frequently following their inefficient treatment, it would seem that sprains have failed to receive the attention they merit from the profession at large. Our most prominent authorities, including Gross, and the American Text-Book of Surgery are contented with a very brief sketch, and in medical societies it is seldom that the subject is mentioned, except, perhaps, when it occurs as a point in differential diagnosis.

Gross says: "A sprain is the wrenching of a joint in which its ligaments are severely stretched, if not partially torn, and more or less injury is done to the soft parts around. The joints most liable to sprains are the ginglymoid, or those which admit of motion principally in two directions, as the knee, ankle and elbow." The symptoms are pain, impaired or total loss of motion, sense of faintness caused by shock to the system; after a time swelling and tenderness, and sometimes an indistinct perception of crepitus strongly simulating fracture, depending on a deposit of plastic matter.

The hinge-like anatomy of the ankle-joint, its peculiar susceptibility to sprain on that account, and the frequency of its injury naturally makes greater interest

hinge upon it than upon sprains of other parts. Most authorities advise keeping the part absolutely at rest, apply soothing embrocations, or strong liniments, and under no conditions to allow the limb to be used. Among the laity it is common practice to apply masses of moist earth, or brown paper immersed in vinegar to the injured part. The American Text-book, among the latest authorities, says: "Free, active and passive motion of the joint from the first, as has been strongly advised by some, is painful and cannot be otherwise than injurious when the sprain is a severe one. By far the best treatment, as a rule, is immobilization of the joint by the application of a plaster of Paris bandage. If applied soon after the accident has occurred it will very much lessen congestion, hemorrhage and effusion and diminish the time of confinement." Gross had a far better idea of the treatment, and indeed somewhat foreshadowed later ideas when he said: "The limb, weakened by the previous suffering, requires tone and support, and there is nothing so well adapted to promote this object as the careful and judicious employment of the roller. Sometimes the bandage may be advantageously replaced by adhesive strips applied after the manner of dressing indolent ulcers."

Use is the condition of development of

all the powers of the mind and body. Facility of action comes by habit. Inactivity and idleness induce torpidity and effectually retard growth of every kind. Exercise in all its variety, bodily and mental, is the instituted means for the methodical development of all our powers under the direction and control of the will. In like manner, "motion," as an eminent authority remarks, "is the proper stimulus of a joint, as air is of the lungs or food of the stomach; and when after any injury it is too long neglected, serious consequences are sure to arise."

Dr. Gibney, in a recent number of the *New York Medical Journal*, advanced some new ideas in the treatment of sprained ankles, which are very reasonable, practical and worthy of consideration. The experience of numerous observers since then has verified his statements and proved the efficiency of his method. The treatment involves no loss of time, requires no crutches and is not attended with any ultimate impairment of functions. A number of strips of rubber adhesive plaster from 9 to 12 inches in length and appropriate width are prepared. Beginning at the outer border of the foot near the little toe, the first strip partially encircles the joint and ends behind the foot. The second strip is begun on the inner side of the foot and is applied on the opposite side nearly meeting the first strip behind. Other strips are applied in like manner, each one overlapping the last, and crossing its fellow of the opposite side in front so that the ankle is snugly and smoothly encased, care being taken not to completely encircle the joint with any one strip. After having bound the foot firmly, it is well to add one broad strip running around the foot, from the internal side of the leg down the internal side of the foot across the plantar surface and up the outside of the leg, "as much as possible to take the place of the middle fasciculus of the external lateral ligament, which is so often the one most injured." It is a good plan to place a pad of absorbent cotton over the external malleolus and in the fossa below, to prevent undue pressure and chafing. Any one of the injured ligaments may receive a similar reinforcement from an extra strip. Then apply a roller smoothly over the entire surface, allowing it to remain

until the plaster takes firm hold. To further substantiate the merits of this treatment a few cases are briefly reported:

Case 1. A young man, aged 22, apparently suffering great pain and unable to walk; sprained ankle diagnosed. Deciding to use the Gibney treatment, the foot was shaved and the adhesive strips applied, reinforced with a roller bandage. The patient was then told to walk, which, after some hesitation, he did, going with only a slight limp.

Case 2. J. P. Mc— had fallen from the top of a box car, severely spraining both ankles. The injured parts had been dressed for 36 hours in lead and laudanum lotion, but were nevertheless greatly swollen, discolored and painful. He had them elevated on a pillow when I arrived, shaving the parts and proceeding as usual, I ordered him to walk, allowing him to use his cane. Slowly, cautiously, and fearfully at first, he placed his feet to the floor, exclaiming, "Boys, that don't hurt; I can walk!" and he walked about the room several times. Three days later he was on the streets.

Case 3. A. T., aged 25, railroad brakeman, wrenched his ankle in stepping across the gutter, came limping in on crutches. Treatment was applied and he walked out, carrying his crutches.

Case 4. A. W., prescriptionist, sprained his ankle in jumping over a fence, alighting on a heap of bricks. Unable to walk and suffering greatly. Treatment was applied a few hours after injury and patient went to a picnic, using his ankle all day.

Case 5. A man from Mounds, Ill. Treatment was applied and he walked out of the office with a very slight limp.

Case 6. Siegfried, act. 30, R. R. section foreman, slipped off a car, severely spraining his ankle; was visited an hour after injury; ankle had been wrapped in moist clay, was much swollen and painful. After removing dressing and bathing foot in hot water, the ankle was put up in the usual manner. Patient was immediately able to walk and the pain disappeared almost entirely.

In the *Railway Surgeon* of January 28, 1896, there is an article by Dr. A. B. Poore, of Cedar Rapids, Ia., which is highly commendatory of the Gibney treatment. Among other things he says:

"Usually the patient at once makes two comments, that the pain is very much lessened as soon as the strapping is complete, and after he has tried it, that he is surprised to know how well he can walk. The average time is so much shortened by this treatment, and the pain is so much less, that the ordinary sprained ankle is no longer a bugbear."

The simplicity of the strapping treatment, the ease with which it is applied, and the immediate and marvelous effect upon the patient are great arguments in favor of the treatment. Though in direct opposition to the teaching of most of the

authorities, it is none the less deserving of attention and application. Judging by its effects and results, it is a wonderful improvement over the old methods. The saving of time alone in the case of men employed by corporations that pay their employes for time lost when injured; to accident insurance companies to whom the saving of time means a saving of many hundreds of dollars in indemnities, and last, and best of all, to the patient himself, who can soon resume his work free from pain and without fear of unfortunate results in the future is of the greatest importance.

### MORPHIN IN AORTIC INSUFFICIENCY.

R. A. WORK, M.D., BUCK, PA.

Some four years ago a man called at my office. He was robust and scarcely past his prime. I think his age was 54. He had been a hard-working farmer, toiling from early to late all his life, nor minded any kind of weather. "Never sick a day since childhood," he said. But quite recently he, in company with a son, had taken a very long walk. Experiencing some difficulty of breathing on ascending some steep hills that lay on their route, and having never been so affected before, he, on passing the residence of a physician, called to learn the cause.

He found the medical man at home, and was informed by him that the heart was a little out of order and needed toning up. Digitalis was prescribed. The man reached home safely and without difficulty, and began taking the medicine. The "shortness of breath," instead of disappearing, after several days was so increased as to cause great suffering on the least exertion. By this time he began to blame the medicine for the increase of the trouble, and it was stopped.

Why should there be this rapid increase of cardiac embarrassment, as expressed in the growing dyspnea, after the use of this popular, and, in its place, useful remedy?

The man had an aortic insufficiency which was perfectly compensated, and gave no sign because the increase in the volume of the heart muscle rendered the

heart capable of doing the increased amount of work thrown upon it. However, consequent on the long walk, the heart became fatigued, and, for the time being, an uncompensated condition was evidenced.

What the man needed and the heart demanded was rest,—rest in bed, and with less uphill work, the heart would doubtless have recuperated and again become able for its task without the aid of therapeutics; and if any medicine was needed, it was not digitalis. Normally, after considerable muscular effort, there is a fall in the arterial pressure, and this circulatory modification, though without inconvenience to a man with a healthy heart, may be disastrous, indeed, to one with aortic insufficiency. Here the arterial pressure already weakened, and liable at any moment to become still less under this normal fall, in a manner produces a cerebral anemia, "which, by the way, may exist to the extent, it is believed, of producing a fatal syncope."

Then if any agent of the *materia medica* was demanded, some one of the opium preparations was surely indicated. In opium we have a medicament producing congestion of the encephalon, and this would have counteracted the existing cerebral anemia, and so have acted as a pure heart tonic.

But instead of rest, a slowly acting but

powerful medicine was given, and by it the muscular energy of the heart was increased. With this stimulation and increase of muscle there was also a greater chemical combustion, which rapidly modified the structure of the muscular fibrillae, producing a loss of its contractile properties. The stage of complete compensation had been destroyed, and that of the granulo-fatty degeneration brought about.

The man fell dead some months later.

The one positive law on the care of any heart lesion is: "Make the heart equal to its task; oppose, so far as possible, the granulo-fatty degeneration." Always endeavor to lessen the work of the heart, instead of trying to make the heart equal to increased work.

I recall a case in my practice that finely illustrates the value of rest and opium in cases of aortic insufficiency. At intervals of a few months, during the last five years, I have been hurriedly called to see this patient. On arrival I find her gasping for breath, with considerable pain in the cardiac region, a very rapid and intermittent pulse, and, on a few occasions, marked edema of the lungs, with expectoration of frothy, blood-stained sputum.

These attacks coming on, as they do, after a day of special exertion gave me a

key to the treatment. I marked a tired heart; a congested lung because the heart was too tired to keep the blood from accumulating in its vessels; nerve symptoms indicating an anemic condition of the central nervous system.

At such times I exhibit morphin sulphate, one-eighth grain, per os. In a few minutes, as if by magic, the sufferer lies quietly in bed. The symptoms of cerebral anemia are gone, and with increased nourishment the nerves pour out new force, the heart takes on fresh vigor, the pulmonary hyperemia is relieved, and my patient is comfortable. In a week she is permitted to be around again, but to do little work for several days longer.

In the more severe attacks, I have been accustomed to prescribe several smaller doses of one-sixteenth to one-twelfth of a grain of the same drug every four hours.

Amyl nitrite and nitro-glycerin are of much value in such cases, and, where the attacks occur more frequently or opium disagrees because of some personal idiosyncrasy, I should substitute one of these for the morphin. The action of the amyl nitrite and nitro-glycerin is very similar; but that of the former is very transient, that of the latter more permanent.

## CHRONIC RHEUMATISM.

JAMES KIRBY FREE, M.D., BILLINGS, MONTANA.

**Case 1.** A gambler, aged 30, sat in a poker game from Sunday night to Tuesday morning, and twenty-four hours later was stiff and sore all over. He had always been subject to rheumatic symptoms since his twentieth year. At the time, he was nursing a case of gonorrhea. Most of his rheumatism was now in neck, stomach, diaphragm and legs. There was no swelling.

The man's friends sent him to the hot springs, but as he did not improve in three weeks he came home. One-half grain of morphia sulph. with atropia sulph. four times daily was required to keep the pain within bounds. None of the ordinary remedies had the slightest effect.

Massage and sweat baths were tried,

with negative results. Strychnia nitrate and atropia sulphate, each one grain, dissolved by heat in one ounce of water, ten minimis to a dose, four times daily, acted best. The dose of morphia was slowly reduced, and the patient was able to go about as usual in six months. A large bedsore over the sacrum was a tedious and troublesome complication.

It was expected that systematic exercise would do this patient good, but he could not be persuaded to stick to it.

**CASE 2.** Young man, aged 20. Had rheumatism for eleven years; ankles were more or less swelled and painful all the time. Nearly every one of the principal joints in the body were involved when a change of weather occurred. The wrists,

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next to the ankles, were most troublesome. The hot springs treatment was used three months without permanent benefit.

Systematic exercise, five minutes morning and evening, given to dancing up and down on the ball of the foot, combined with Indian club motion of arms, effected a cure in four months. Patient continues this exercise daily, and has promised to do so for the balance of his life. He has gained in weight, muscular development, and chest expansion.

CASE 3. Veteran of late war, age 52; has had rheumatism for years. An exacerbation occurred the day after election, November, 1896. Was confined to his room from that date to May 15, 1897, when he was put into a sweat bath for the first time. As a preface to treatment, he was given a large dose of calomel. During six months' constipation had been constant, urine was scanty and high colored and full of sediment. Appetite was lost, and patient says he felt as if he was drying up. He had not slept more than an hour at a time for months.

The purgation was followed by the administration of Fowler's solution, four minims, four times a day, none at night. No further trouble was experienced with the bowels. Morphia sulph., one-quarter grain, with atropia sulph. was given hypodermically to secure sleep from May 15.

The sweat bath was obtained by seating the patient on an ordinary chair, protected by cushions, and wrapping him up in three heavy blankets. An alcohol lamp was then kept burning under the chair. His feet were immersed in a tub of hot water. Profuse perspiration was easily obtained. At first pilocarpin muriate, one-tenth grain, was given hypodermically before taking the sweat bath. It increased diaphoresis, but seemed to be too debilitating, and was discontinued. In three weeks there had been such decided improvement that it was possible to take the man out of doors.

At night the dose of morphia was gradually reduced and phenacetin substituted. The last spot to get rid of the rheumatism was the neck, where it had appeared first.

An excess of lactic acid seems to be the secret of rheumatic disease, but there are other factors which have a pull. The administration of lactic acid, for instance, does not, *de novo*, cause rheumatism.

There is lactic acid to spare in the stomach, in certain cases of cancer, but rheumatism and cancer are not pathologic relatives. Cancer is supposed to be a parasitic disease; while as yet no micrococcus has been dignified by having its wagon hitched to a rheumatic star.

From the intestinal canal to the circulatory system may be a day's journey. To reach the blood, the various contents of the digestive apparatus undergo changes. If they did not we should find pepsin in the blood doing the same kind of work it does in the stomach. An obstacle to the conversion of lactic acid into its usual chemical form for absorption might arise, which would allow it to pass unchanged into the blood. The symptoms of irritation which arise under such circumstances would be what we call rheumatism.

Take a look at case No. 3. Here is a man who has lost fifty pounds live weight in six months. His muscles creak when he tries to use them. His urine is intensely acid except when large doses of alkaline drugs are swallowed. Thirst is absent. The mainspring of the disease seems to be in the nervous system, because there are no swellings. When diaphoresis was first obtained the fluid was acid and of a salty taste. It contained broken down cells, granules, casts, albumin and various soluble constituents of blood. The glands brought to the surface a fluid of varying constitution, according to the means employed to secure the diaphoresis. Nature's way of opening the mouths of the sweat glands is by the application of heat. A stimulated heart sends a flood of heated blood toward the surface of the body. Vaso motor control relaxes, and that portion of the blood which can be spared is allowed to escape.

The rheumatic patient must have artificial appliances to produce sweating. Heat and moisture seem to be a good combination for the purpose; so he is enclosed in blankets, with his feet in hot water, and an alcohol lamp under his chair. All the heat generated is retained in the closed space, and the temperature rises. Inhibition is effected, and diaphoresis results. If the rheumatic poison is soluble there is no reason why it should not at least be reduced by this process.

Drugs such as pilocarpin muriate act upon the nervous apparatus. Diaphoresis

by means of their action furnishes a different clinical picture. Instead of a rising temperature and a stimulated heart there is depression. Patients put into the sweat bath often come out feeling weak and nauseated. Later, watery stools show that secretory activity has been stimulated. It is evident that the brisk circulation during diaphoresis is the least likely to result in shock. Artificial diaphoretics, then, should be combined with stimulants.

Muscular rheumatism frequently affects one portion of the body for a great length of time. In such cases the nerve supply of the diseased tissue ought to furnish a pathologic clue. If the poison is located in the central nervous system, the pain in a distant part may be the evidence of reflex action. Saturation of the blood may have led to the deposit of crystals of the poison. Rearrangement of chemical molecules caused by loss of body heat might explain the matter. Once the poison becomes insoluble it is a foreign body and acts as an irritant.

Rheumatic patients are troubled with insomnia, which shows that an irritant is present in the brain. One serious loss sustained by the patient is the depreciation of a sufficient amount of oxygen. This means that rheumatic blood is partially asphyxiated by accumulated waste. Normal blood should be alkaline, and to nourish the body its red blood corpuscles must carry oxygen and iron. Add too much carbonic acid, take away too much oxygen, and give the blood some lactic acid to carry, and the conditions are present which will lead to destructive chemical activity.

Half the world does not know what a small amount of oxygen the other fellows are getting. This idea was once only a nebulous sort of conviction, with amoeboid movements; but the dendritic and protoplasmic processes of the neurons have maintained the contact so long that it has developed into a hypothetic spring chicken.

Chronic muscular rheumatism does not afford a very promising field for the exploitation of exercise, especially when the sufferer can demonstrate to his own satisfaction that it is impossible to move out of the house. It is always well to locate the cause of a pain, and to feel acquainted with its environment.

*Ex cathedra* sufferers from insomnia will remember how they felt when they were on the gridiron. They will recall the brain fag, the nerve pinching, etc., the see-sawing and gimlet-boring in the muscles, the itching of the skin, burning of the eyelids, and that chronic feeling of the devil in the bones. Such a family group of symptoms goes far to convince the observer that the core of the rheumatic complaint is in the central nervous system. Hypodermatics of morphia with atropia are admissible when such torture becomes unendurable. But where a hypnotic is used frequently, it is well to be on the lookout for an entering wedge for nature.

In case No. 3 out-door exercise was prescribed, first, with the hope of making the patient tired enough to sleep without morphia. For at least a week the effort failed to pluck a therapeutic four-leaf clover. Fifteen grains of phenacetin in hydrobromate of caffein was given before taking the patient outside the house. It was argued that the sedative effect of the phenacetin would be counterbalanced by the tonic effect of the exercise. When walking had warmed up the body alkaline drinks were administered. They seemed to act better than if the stomach was empty. An active circulation must set the various glands to functioning, but there could not be much physiologic connection between an abundant secretion of gastric juice, for instance, and the absorption of alkaline drinks.

Damp weather is sure to aggravate rheumatic pains, just as it affects corns. The relation of oxygen to the moisture may cause the difference in barometric pressure. The months of May and June, 1897, were damp and disagreeable, but that was not allowed to interfere with the patient's exercise. His house was situated near the bottom of a rather steep hill, about a mile long. The object in view was to get to the top of the hill.

The medical philosophy of hill climbing for muscular rheumatism is not occult to the plodding clinician. Stretching of the sciatic nerve, and of the muscles of the lower extremities, would be an obvious effect. Then comes the concentration of nervous force to produce co-ordination. Muscular tissue expands during activity. Heat is developed. The heart responds to the stimulus. Respiration becomes deep-

er, and more oxygen is supplied to the air cells. Blood obtains one gas from air by giving up another. The products of waste metamorphosis feel a new impulse to move out. Red blood corpuscles are the common carriers of oxygen to the body. They obtain as much oxygen as they can carry in the lungs. Blood is a complex menstruum, and the corpuscles will be robbed of some of their freight while en route to the organized parts.

If the blood is charged with oxygen, it will be all the better nutriment for the tissues. A brisk circulation promotes transpiration. The amount of moisture which exudes from the sweat glands during an hour's exercise must be considerable. Sometimes large quantities of water

were swallowed, while patient was out of doors. When much water was taken directly before going into the sweat bath, diaphoresis was much more profuse. If the fluid portion of the blood, which was withdrawn from the body by diaphoresis, was restored by rapid absorption of water from the alimentary tract, there was an excellent opportunity afforded to resolve rheumatic deposits. Activity of emunctories was not all that was required.

So fast as the muscular system developed the patient regained his normal condition. Supplying to the tissues needed oxygen and thereby counteracting the effects of retained poisons in the blood, was at least half the battle.

## CURRENT LITERATURE CONDENSED.

### A Characteristic Sign of Measles Occurring on the Buccal Mucous Membrane.<sup>1</sup>

The author describes an appearance, generally overlooked, which he considers of great value in forming a diagnosis of measles. If we look in the mouth during the first twenty-four or forty-eight hours of the invasion of measles—i. e., at a time when the cutaneous rash has not yet appeared, when there is coryza and conjunctivitis—we see a redness of the fauces; perhaps, not in all cases, a few spots on the soft palate. On the buccal mucous membrane and the inside of the lips we invariably see a distinct eruption. It consists of small, irregular spots, of a bright red color. In the centre of each spot there is noted, in strong daylight, a minute bluish-white speck.

These red spots, with accompanying specks of a bluish-white color, are absolutely pathognomonic of beginning measles, and when seen can be relied upon as the forerunner of the skin eruption. These specks of bluish-white, surrounded by a red area, are seen on the buccal mucous membrane and on the inside of the lips, not on the soft or hard palate. Sometimes only a few red spots, with the central bluish point, may exist, six or more, and in marked cases they may cover the

whole inside of the buccal mucous membrane.

As the skin eruption begins to appear, and spreads the eruption on the mucous membrane becomes diffuse, and the characters of a discrete eruption disappear and lose themselves in an intense general redness. In some cases of beginning measles the spots on the buccal mucous membrane are so few as to escape notice if not carefully looked for. It is therefore advisable in all cases to place the patient opposite a strong light from a window, and, in opening the mouth, to evert as it were the buccal mucous membrane with a spatula or with the thumb and index finger, pressing the white on the outside of the cheeks.

There is nothing characteristic about the appearances on the hard and soft palate.

### Cardio-Pulmonary Murmurs.<sup>2</sup>

The author states Potain's views as to the causation of so-called functional murmurs, and gives his reasons for dissenting therefrom. Potain's theory, which is very widely held in France, is that these murmurs are for the most part extra-cardiac, or cardio-pulmonary in origin. He believes they are produced in the lung surrounding the heart by the expansion of

<sup>1</sup> H. KOPLIK, M.D., in *Archives of Pediatrics*.

<sup>2</sup> DR. G. SANDERS, *Edinburgh Medical Journal*.

the lung suddenly filling the space left vacant by the movements of the heart.

The murmurs are heard only over that part of the precordia where there is a layer of lung interposed between the heart and the chest wall. At times this may be strikingly confirmed, as when the area of a murmur is found to follow exactly the outline of the border of the lung. Again, observations on animals show such murmurs to be frequent without any organic disease of the heart. Actual observation may demonstrate it.

Potain observed a systolic murmur in a horse in the exact spot where after death a tongue of lung was found to exist. Again, in an experiment on a dog, in which such a murmur had been discovered, by opening the pleura a hook was introduced, by means of which the lung was retracted, with the result that the murmur disappeared; when the lung resumed its former position the murmur reappeared.

Sanders, criticising these views, remarks that it is incorrect to say that these murmurs are heard only over subjacent lung; they are often heard in situations under which *post mortem* no lung is found to exist. The lungs too are variable in size and position, and it is difficult to explain through their agency a murmur so constant and definite in position and nature as the pulmonary murmur of chlorosis.

#### Cases of Anemia Following Diarrhea.\*

The anemia which sometimes follows the diarrheal diseases is often very difficult to cure. After the diarrhea has ceased the digestion seems to be weakened and the child does not gain, but remains thin and very pale and anemic. Its appetite is poor and capricious. Digestion is imperfect and the child does not seem to assimilate what little it does take. Such children are sometimes given cod-liver oil and iron, but still fail to gain, and the treatment seems useless. They clearly need iron, but most preparations of iron either disagree with the stomach or seem to do no good. In many cases of this kind no tonic will accomplish much unless the state of the digestion is also looked after. By observing two points in these cases I

have been successful in relieving anemia that had before proved obstinate. These two points are to aid the digestion and give a form of iron that is active but also easily digested and assimilated. The three following cases were unusually anemic, but the results of treatment were so good as to lead me to report them:

The first case was a girl thirteen months old, who had diarrhea for five weeks in July and August, 1896. Later in September when I saw her first she was very pale and anemic; the appetite was poor, and she would take nothing but milk and very little of that. The stools were green and often hard. The child was restless and very cross and slept poorly. I ordered syrup of rhubarb for several nights to move the bowels freely and also five drops of rhubarb and soda mixture after each feeding. As a tonic I ordered one-half teaspoonful of pepto-mangan, to be given in the milk three times a day. At the end of a week there was a clear improvement to be seen in the child's condition. She began to gain in weight and the color improved rapidly. At the end of a month she was apparently as well as any child, except that she had not quite gained her full normal weight. The treatment was continued for a short time longer, and she was gradually given a mixed diet.

The second case was a boy two years old, who had a long attack of diarrhea in August. At first, according to the history, it was dysenteric in character, the stools being composed mostly of mucus and blood. The diarrhea stopped gradually and the child became constipated and grew paler and paler, the mother said. Iron had been given, but caused vomiting, and was stopped. The anemia was very extreme. I ordered treatment similar to that given to the first case. Ten drops of rhubarb and soda mixture were given after each feeding. This after a little was sufficient to render the bowels rather too loose, and the dose was stopped after a part of the feedings. The pepto-mangan was not so well taken in the milk, and was given in water with a few drops of wine added. In that form it was well taken and caused no trouble with the stomach. The improvement in the anemia was very rapid. The appetite improved at the same time, and the child was lost sight of.

The third case was a baby of seven

\* HENRY A. JOHNSTON, M.D., Brooklyn, N.Y., in *Archives of Pediatrics*.

months who had a short attack of diarrhea three months before I saw it. It was not very sick at that time, but had suffered from constant indigestion since, and had gained very little in weight and had become very pale. Iron and cod-liver oil had been given, and both had been persistently vomited. When I first saw it it was very much emaciated and very anemic. It was fed irregularly and too often. I put it on a strictly milk diet and reduced the number of feedings and ordered the same treatment of pepto-mangan and rhubarb and soda. Improvement was soon marked and continued until the child had completely regained its normal weight and color, and was perfectly well.

Several other cases of similar nature have resulted equally well by correcting the constipation and indigestion, regulating the diet, and at the same time giving iron in this effective and very easily assimilated form.

#### Symptoms of Chloroform Collapse.<sup>4</sup>

The symptoms are in all cases alike. Sudden and complete blanching of the face takes place, leaving it of a ghastly-gray hue. The term "pallor" conveys no idea of the actual appearance. The eyelids fall open, the eyeballs are fixed in the upward position, with pupils fully dilated as under extreme atropinism. At the same time the cornea becomes glazed and sticky, giving an appearance, which, once seen, is never forgotten. It can only be described in a somewhat fanciful manner by saying that the light seems to fade from the eye as does the color from the cheek and lips. Probably it is due to flaccidity of the cornea from decrease of intra-ocular tension, noticed by Dubois (*Soc. de Biologie*, 1884). It is the undoubted look of death. I have seen it at many a death-bed, but never under any other circumstances except those at present considered.

The appearance of a person in a dead faint, or just after a severe accident, is no more than the shade of that which obtains in cases of chloroform collapse.

The pulse and cardiac impulse are at these times no longer to be felt. Respiration commonly ceases at the moment when the blanching and stoppage of the pulse

occur, but at times a few feeble and irregular inspiratory gasps are subsequently drawn. The patient is to all appearances dead. Whether the heart actually ceases to beat at such times will probably never be ascertained, for the moments are too valuable to be spent in delicate investigations on this point. Neither is it possible to affirm from clinical observation that the heart becomes dilated, as in the experiments of MacWilliam and Johnson on animals. Time cannot be wasted in mapping out the area of the heart's dullness in a patient who is in imminent danger of death.

In some cases lividity, accompanied by turgescence of the veins of neck and face, immediately precedes the blanching and look of death, and is coincident with the stoppage of respiration. Possibly dilatation of the heart has actually taken place, and the condition is that of the true cardiac syncope described by Snow.

It might be objected that, were dilatation present, the cyanosis should continue, and not give place to pallor; but, possibly, as the heart fails regurgitation takes place into the inferior cava, and allows the blood from the distended veins of the neck to enter the right heart.

In children, cyanosis, except where actual mechanical asphyxia has been produced, is less apparent than pallor. Under treatment, children almost invariably recover from these alarming conditions, whereas in adults the reverse is unfortunately the case.

As a rule, the preliminary signs of collapse are sufficiently well marked, and if observed in time many a catastrophe may be averted.

These signs are circulatory and respiratory.

The circulatory sign is the presence of increasing pallor, not amounting to absolute blanching.

Failure of respiration is marked by a peculiar type of breathing, in which expiration is extremely short and inefficient, while inspiration is sudden, forcible and gasping, often accompanied by falling of the lower jaw, and spasmodic clonic contraction of the chin-depressors and muscles of the neck. The inspiratory gasps are irregular and broken, and occur with increasing slowness until the condition of sudden collapse ensues.

<sup>4</sup>GUTHRIE, *Clinical Journal*.

This type of breathing is precisely similar to that which is often seen in a patient dying of respiratory failure from other causes.

#### Rectal Gonorrhea in Women.\*

In the past year Dr. Baer has received in his service 296 women with affections of the genital organs. Of these 105 had syphilitic lesions exclusively; 191 presented simple blennorrhea. Of the 191 with gonorrhea, 67 presented the affection in the rectum.

Theoretically, according to the author, the infection occurs in three different ways; Directly through abnormal coitus; Indirectly from the communication with the rectum of an organ attacked with gonorrhea; By the conveyance of the germs from without by pus, or by therapeutic measures (thermometry, irrigation, etc.)

As to the first, the objective symptoms (form of the anus) are very inconstant, and one cannot always believe the patient. The second mode is rare. The great majority are caused by carrying toward the rectum the infectious fluid from the vulva. The urethral discharge frequently is not of sufficient copiousness to make it responsible; but this is not true of the discharge proceeding from the cervix in metritis. Infection occurs with greater facility in prostitutes and in women who have been pregnant numerous times.

Some patients complain of marked pain on defecation; others discharge both pus and blood *via ano*. The mucosa is congested, and bleeds easily in consequence of erosions produced by maceration and epithelial desquamation. Speculum examination reveals lustrous folds of the mucosa, is but slightly painful, and there are no disorders of defecation.

Treatment consists of injections of three per cent. solution of boric acid, and to diminish the secretion and destroy the virus, solution of nitrate of silver 1 to 3000, employing a quart of each solution. This should be continued for from five to six weeks. When an exacerbation occurs, it is difficult to decide whether or not a new infection has taken place.

\* DR. BAER, *Medical Standard*.

#### The Practical Bearing of Washing Out the Stomach in Infants.<sup>6</sup>

Washing out the stomach in infants is a perfectly rational method of treatment and deserves to be more frequently employed. It is exceedingly simple and is performed exactly in the adult. A common soft stomach tube of five millimeters' diameter inside is used, to the upper end of which is attached a rubber tube about one meter long with a funnel. The tube is to be passed while the child sits in its mother's lap, and the washing is at once proceeded with, and continued until the water returns clear. Simple warm water may be used for this purpose. If intestinal symptoms predominate we may add a few cubic centimeters of an alcoholic solution of thymol, and where atony of the stomach is marked the addition of table salt is to be recommended.

The indications for stomach washing are the acute dyspeptic conditions under which is grouped simple acute dyspepsia, acute gastritis, and gastro-enteritis. Not infrequently a single washing accomplishes the cessation of vomiting and diarrhea, even where they have existed for several days. If one washing has not the desired effect it is to be repeated once or twice on the following day. The vomiting is most markedly influenced by the operation; besides this, the appetite and general condition improves promptly. Should the diarrhea still continue it is to be treated by diet and internal medication. In typical cholera infantum favorable results from the washings were in most cases not obtained, though in some subacute and even chronic conditions very good results were noted.

Cases of temporary dilatation and great accumulations of gas are usually accompanied by disturbance of appetite, frequently by vomiting, poor nutrition, and anomalies of defecation. The cause of this condition is generally an atony of the walls of the stomach, frequently accompanied by anomalies of its contents. In such cases a repetition of the washings may be necessary; at the same time dietary, roborant, and other judicious treatment must be combined with it.

<sup>6</sup> LEO (*Der Kinderarzt*) *Pediatrics*.

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PHILADELPHIA, SATURDAY, AUGUST 14, 1897.

## EDITORIAL.

### THE FIGHT AGAINST TUBERCULOSIS.

The REPORTER is in receipt of a reprint and a letter from Dr. Edward F. Wells of Chicago apropos of an editorial in its issue of May 15. Dr. Wells' paper appeared in the Journal of the American Medical Association of February 8, 1896, but it had not attracted our attention until sent to us by the author. The REPORTER's contention for an active and hopeful effort to prevent the spread of tuberculosis was supported by some German statistics quoted. Dr. Wells' article contains elaborate tables of mortality rates from tuberculosis from 1805 to 1894 for New York city, and from 1861 to 1894 for Philadelphia, and similar tables for a number of other American cities and for some European countries. These tables, though with some fluctuations and considerable differences in local prevalence, all agree in showing the diminished death rate from tubercular disease, at least in its pulmonary manifestation. Dr. Wells states that he was led to collect these statistics as the result of a circular

letter addressed to a dozen eminent clinicians, all of whom had responded that they could speak on this matter only from personal impression and were without statistical proof.

Dr. Wells' paper is of importance for reference, as he has furnished additional statistical support for the attitude which we have assumed regarding the duty of the physician in cases of tuberculosis, but we are inclined to doubt the reliability of the apparent conclusion that tuberculosis has declined from ten to fifty per cent. (counting the first mortality as 100 per cent.) in the past seventy-five or fewer years. We must remind Dr. Wells and others who, like the writer, would be glad to take the optimistic view regarding disease and the efficiency of therapeutics and hygiene, that statistics are by no means reliable foundations for opinion.

In resorting to statistics of 1805, or even of 1875, it must be remembered that medical science subsequently has under-

gone a development so great that even words have changed their meaning, and that the conception of "consumption" was a much more literal application of the word to our predecessors in medicine than to us. Many fatal diseases, such as nephritis, diabetes, spinal cord degeneration, internal cancer, even the fibroid changes of old age, are almost always accompanied with more or less pulmonary symptoms toward the close of the disease and would be included under the head of "consumption" by one taking the purely clinical attitude of the older physicians whose death certificates are included in the tables of the early years cited by Dr. Wells. Nowadays a rigid exclusion is made of secondary lung troubles and of primary pulmonary disease not caused by the Koch bacillus. The writer, personally, has reported cases which, superficially considered, presented the typical picture of pulmonary tuberculosis, and had been so diagnosed by physicians of skill, yet which were really either catarrhal pneumonia secondary to cardiac and renal disease, or septic pneumonia due to micro- and streptococci, and which latter recovered under appropriate antiseptic treatment. Taking all the cases

of "consumption" treated by us in general practice and comparing with the list of cases of demonstrated tuberculosis of the lung, we would personally be able to note a considerable difference, both as to prevalence and as to mortality. Nor have we any reason to believe that such an experience is unique.

All this, however, detracts not a particle from the credit due to Dr. Wells for having elaborately compiled the statistics of the subject. While we cannot rely on these statistics to demonstrate beyond cavil the diminished prevalence—or at least the fatality—of tuberculosis of the lungs, it must be granted that they are the best statistics available, and that the most careful study can not now revise the work of the past in the light of modern discoveries and amended conceptions. Nor does the fact that an absolute diminution of tubercular mortality can not be demonstrated lessen in any degree the duty of the present to make such demonstration possible within the next decade. Medical history has not shown the therapeutic and hygienic gain that we might desire, but medical science has pointed out the way in which to secure such an improvement.

#### A TYPE OF THE TRUE AMERICAN.

Indeed, the civil engineer seems to me typical of the highest Americanism in many ways. He is forever making the best of newness and roughnesses and crudities, while planning something better to take their places; one hour he is occupied with elusive problems of big financing and indeterminate estimates of probable travel and possible commercial development—the next he may be running a compound curve between two fixed tangents and experiencing an exquisite satisfaction as his vertical hair bisects the rod and his vernier reads absolutely true. What would be the ideal line in some cases would be absolutely ruinous in others, and all the minutiae

of location must be considered with an omnipresent realization of what the future possibilities of this particular road may be, as well as what are the financial possibilities of its promoters. The cheapest line in some regions would be dear indeed, whereas in unsettled and barren districts the first cost must usually be minimized. There cannot be many professions which combine such large and comprehensive views with such infinitesimal niceties of detail.—From "Lewis Muhlenberg Haupt, A. M., C. E., by Henry Wysham Lanier—one of a group of three sketches entitled, *The Nicaragua Canal Commission:—A Trio of American Engineers.*"—*Review of Reviews.*

## ABSTRACTS.

## THE DIETETICS OF GLYCOSURIA.\*

In the treatment of diabetes mellitus the diet has been almost universally considered to be the one all-important matter. The disease, probably as little understood heretofore in its intimate nature as any one in our nosology, has been held to consist mainly in an abnormal excretion of sugar, and all other symptoms have been generally held to be dependent upon this. Just how excessive sugar excretion could produce the whole series of morbid phenomena no one has successfully explained; the fact has been accepted and made the basis of the treatment.

It has been practically assumed that the excess of sugar in the urine must be due, chiefly at least, to an inability of the system to dispose of sugar-producing foods, which normally constitute the larger bulk of our diet, and that the waste thus brought about was, if not the direct cause of all the morbid symptoms, at any rate an index to the gravity of the condition of the sufferer. The carbohydrates were therefore considered his greatest enemy and naturally to prevent their entering the system was the first indication for the treatment.

It can not be claimed, however, that the prognosis of the disorder has been decidedly improved, in spite of the elaborate dietary tables that have been contrived, or even that life has been materially prolonged by their means in the more advanced stages of the disease. It certainly is not made more endurable, even in the milder forms, where dieting does limit the sugar excretion. In the severer types where sugar continues to be excreted in spite of an exclusively-proteid diet, the latter is certainly ineffective enough to have its usefulness questioned, and that being the case it may be asked if the stereotyped diabetic diet lists, impracticable as they are in some cases, and uncomfortable enough in all, should be adhered to.

The relation of sugar in the urine to the other symptoms is not so clear that we

must necessarily assume it as causal and believe that with its reduction everything else in the morbid syndrome will mend. It may be, and probably is, only one incident of the general vice of nutrition that constitutes the disease and which in all probability depends primarily upon some serious disturbance of the central nervous system. Pavly has thought that this must be sought for in the vaso-motor centers causing capillary dilatation and hyperoxidation of the blood, but, however it may be brought about, the probability of the original lesion of diabetes being in the nerve centers is one that should be recognized. How this is to be reached by treating the one symptom of glycosuria is not altogether demonstrable.

In the very thorough study\* of this subject by Dr. Munson he states "that there has apparently been of late an undercurrent of thought to the effect that possibly the complete exclusion of carbohydrates from the diet might not be an unalloyed blessing to the diabetic." The facts that sugar is produced in the system by the splitting up of proteids, and that the most rigid exclusion of carbohydrates does not suppress its production or its excretion in extreme cases, that even the diabetic requires a certain proportion of sugar in his blood and possesses still a power of consuming it, and that is, if not supplied by carbohydrates, must be furnished by the albumins, are all very significant, and it is remarkable that more attention has not been given them before. In fact, aside from possible local effects upon the urinary passages, we know of no certain reason why a certain excess of sugar ingested should not be normally excreted without serious systemic disturbance, as is the case with many other substances; and this is the fact in ordinary dietetic glycosuria, which, considering the unlimited ingestion of saccharine substances, must be more frequent than is commonly supposed.

In diabetes, however, this single symp-

\* Editorial in *Journal A. M. A.*

tom has masked the whole pathology of the disease, has become the disease itself in the minds of the physicians generally, and therefore the sole object of the treatment. There is hardly another so striking example of this error of taking a part for the whole in all medicine—assuming these views to be correct.

Dr. Munson is of course not the first to except to the accepted views of the treatment of diabetes; there has been, as he says, an undercurrent of opposition to them for some time past. For example Saundby, at the International Medical Congress of 1894, read a paper favoring a change in the general practice of withdrawal of all carbohydrates from the diet of diabetics, and for allowing them so much of such substances as did not materially increase the urinary sugar, and others have published cases showing, like the one given by Dr. Munson, that the patient's general condition improves under such al-

lowance. If this instead of the quantity of sugar excreted were generally taken as a guide, it is probable that there would be some change in the common views as to the therapeutics of diabetes. There would at any rate be probably less complications from the production of auto-intoxications by a diet that is abnormal in health, and that can hardly be expected to be all that is demanded by the disordered organism.

Even if Dr. Munson's opinion, that the sufferer from diabetes requires sugar in his diet even more than a person in perfect health, be not accepted as too extreme, there is still evidence enough to warrant a very material alteration in the hitherto accepted views of the necessary dietetic treatment of the disease. If possible, we should aim to meet the neurosis itself, and not be led aside by a single predominant symptom, and this can not well be done by still further crippling an already depleted system.

#### PREDISPOSITION AND IMMUNITY.\*

It is claimed that the older writers laid too much stress on the doctrine of temperaments, and on the influence which these conditions of the system are capable of exercising over diseases, but when we remember that temperament is the organic constitution dependent upon certain mental and physical peculiarities, innate or acquired, that it is the specific difference which gives to persons or groups of persons their individuality, we see at once, that we are dealing not only with the disposition of our patients, but also their predisposition to disease, and therefore with questions of much practical value to the physician.

Intimately connected is the subject of idiosyncrasy, or the peculiarity of constitution by which a person is affected by external agents in a manner different from mankind in general, and this *personal peculiarity* may be mental or physical, innate or acquired, permanent or temporary. As examples of the purely mental manifestations may be mentioned the various likes and dislikes toward persons, things, and pursuits, expressed by such terms as

predisposition, sympathy, antipathy, etc. In other instances the emotions and the organic nervous system are affected simultaneously by impressions received through the organs of sense, as in the case of syncope, produced by the sight of blood, or a beet-root, or the distress occasioned by the odor of a cat, or of roses.

In another group the phenomena are of a reflex character through the spinal centers, or to direct poisoning of the system or of organs. Thus among foods or drugs swallowed, among gases or dust inhaled, among substances brought in contact with the skin, many, although harmless to the majority of men, are for this or that individual irritants or poison. I shall not attempt to account for these peculiarities; but will say, that the idiosyncrasies of individuals are not matters for ridicule, for much is to be learned from them, both in preventing and treating disease, and, above all, they impress the important lesson that we can not treat our patients by routine methods.

*Predisposition to Disease.*—Carpenter defines the term to be that state of the body, which renders it peculiarly liable to be affected injuriously by a morbid agent,

\* GEORGE M. KOBER, M.D., Washington, D. C., in *Practical Medicine*.

determining in the case of a *non-specific* agent the particular disease which it shall induce in each of several individuals similarly exposed to it, while in the case of a specific agent or morbid poison, it determines the relative liability of several individuals similarly exposed to it, to become the subject of the particular disease it is capable of originating, and also influences the severity of the attack.

Thus, of several persons exposed to cold draughts, some may not suffer in any way while others are attacked by bronchitis, pneumonia, nephritis, according to the part of the body which the reflex congestion most affects, but usually selecting the locus minoris resistentiae.

Of the relative liability to infectious diseases, we know, that of several individuals exposed for example to the poison of scarlet fever, some will escape altogether; some will be attacked with a mild form, others with a sore throat without the eruption, while in still others a most malignant type is developed.

So far as the infectious diseases are concerned, it would appear that invasion of the microbe alone is not sufficient to produce disease, because this may take place often enough. If, therefore, disease results, there must have been a state of the body which rendered it peculiarly liable to be affected injuriously by the morbid agent. In brief, the host must have furnished a suitable soil for the development of the germ, and the functional and structural changes, which are brought about by the agency of the bacterial products.

In the first place, this predisposition in many persons amounts to lesions, large or small, of the skin and mucous membranes, which favor the invasion of the germs. This is essentially true of surgical infections, but it is also held, that the peculiar susceptibility of persons suffering from whooping cough and measles to tuberculosis, is due to a catarrhal condition, and alteration of the epithelial layer of the respiratory tract, which favors the invasion of the tubercle bacilli; for similar reasons the mucous membranes of anemic subjects are believed to favor infection. Loffler has shown that the vagina of young guinea pigs favor the inoculation of diphtheria bacilli more than those of older animals, and we know that the delicate mouths of children are more susceptible

to the effects of this bacillus and of the *oidium albicans*, than those of adults.

Functional derangements of the stomach, and especially a chemical alteration of the gastric juice, may determine the viability of the germs introduced. Thus, we know that normal gastric juice destroys the cholera bacillus, but if the fluid becomes faintly acid, neutral, or alkaline, this protection ceases, and the germs reach the intestines and proliferate. This is doubtless true of many other disease germs.

The activity and power of resistance of the cells, especially of the blood-corpuscles, differ doubtless in different individuals. According to Metschnikoff, the leucocytes assume the role of defenders of the body against bacterial invaders, and are phagocytes in this, that they either swallow and digest the bacteria or surround them so closely as to cut off their oxygen and food supply, and thus kill them. According to this theory, an animal whose white blood cells can successfully battle with and eat up a given species of bacteria, enjoys immunity from its deleterious effects; if on the other hand they are not strong enough to resist them the battle is lost, and the way is open for the spread of the infecting germs. It is believed that the phagocytic power of leucocytes varies in different individuals, and their numerical strength is perhaps also an important factor.

According to Nuttall, Prudden, and others, the blood serum also possesses in different animals, and in varying potency a most marked germicidal power.

Whatever the exact role of the blood may be, the influence of a healthy condition of this fluid can not be questioned. Wysskowitsch's experiments have shown that the same bacterial organisms which were rapidly destroyed under normal conditions of the blood, at once began to proliferate when the animal was placed under the influence of a ptomaine. If healthy blood offers a natural defence impure blood would constitute a prominent predisposing factor, and the average layman may, after all, not be very wrong when he talks to us about "his blood being out of order."

We know from clinical experience that suppression of one or more of the emunctories of the body, bad food, impure air

and water, predispose to a number of infectious diseases, probably because the presence of an excess of effete matter, *i. e.*, nitrogenous matter in a decomposing or readily decomposable state in the blood current offers the best possible food for disease germs.

Of the effectiveness of the introduction of putrescent organic matter, either in food, water, or air, may be instanced the undue prevalence of zymotic diseases among the poor and residents of insanitary districts.

As examples of the marked potency of excessive generation of effete matter within the body, may be mentioned the peculiar liability of puerperal women to septic infections.

The bad effects of overeating and consequent accumulation of effete matter, and the effects of overwork, with an abnormal rapid waste of the tissues whereby the blood current becomes unduly charged with the products of disintegration may also be cited. As a secondary effect of overwork we must not underrate the diminished power of resistance of the system and individual cells, which results from physical strain. The effects of intemperance, deficient exercise, and overcrowding, as predisposing factors to disease, are largely attributable to an impure condition of the blood.

The influence of fear, worry, and anxiety as a predisposing cause to disease, should be mentioned. Since the brain presides over every cell in the body the power of resistance is probably influenced by the frame of mind. Just how this is accomplished, whether by its effects upon nutrition or by direct nervous influence, it is impossible to say, and for the present we have to accept the simple fact, that while worry, anxiety, or mental depression predispose to many diseases, so an elastic frame of mind improves the tone and power of resistance of the cells.

General malnutrition constitutes an important predisposition factor. Since in infectious diseases there is evidently a struggle between the cells of the body and the microbial invaders, we can readily appreciate, that deficient nutrition must lower the energy and power of resistance of the body cells.

In the light of clinical experience the existence of an individual predisposition

to disease can not be questioned. We also know that this may be hereditary and acquired. Of acquiring predisposition we know that any habitual infraction of the laws of health will induce a general liability to disease; thus the habit of living in overheated rooms predisposes to pulmonary and bronchial affections, dust inhaling occupations are predisposing factors to tuberculosis; the habit of rapidly eating a large meal tends to injure the digestive organs, etc.

In hereditary predisposition we are evidently dealing with an organic construction of the body framed during uterine life that favors the production of certain diseases, and it is no more difficult to account for inherited vulnerable anatomical elements to certain morbific agents than to explain the hereditary transmission of physical and mental characteristics, and the many idiosyncrasies to drugs, etc. Among the diseases that pass, especially in the hereditary line, are tuberculosis, cancer, epilepsy, insanity, gout, rheumatism, goitre, and cretinism.

Various theories have been invoked to explain heredity and hereditary predisposition. Some writers lay much stress upon ancestral blood, the disease is in the blood, and that the germ or sperm being derived from the blood must possess the peculiar abnormal impress of the blood; but even if we could accept this proposition, how shall we explain the more singular fact, that sometimes a whole generation is passed over, the disease or other peculiarity appearing in the next. Again, it is well known that the children of a woman by her second husband may resemble, physically and mentally, her first husband. In the lower animals instances of this are far from rare. A bitch will have a litter, one-half of which resemble in their markings their progenitors and the other half a dog by which she has previously had offspring. These are interesting, but difficult problems.

It has been shown on inferior animals, that certain injuries inflicted on the nervous system will produce epilepsy, muscular atrophy, and other acquired variations, which pass to the offspring as distinctly as if the mischief had actually been inflicted upon the offspring, providing the injury has been inflicted on a nervous center, the brain or spinal cord, or on the

trunk of a nerve, like the sciatic nerve. On the other hand, no injury inflicted on the peripheral expanse of the nervous matter appears to be transmitted. Weisman, for instance, tells us, that 901 white mice were produced by five generations of artificially mutilated parents, whose tail had been cut off, and yet there was not a single example of a rudimentary tail or any other abnormality in this organ. On the other hand, experimenters, like Shiddell, claim to have obtained affirmative results when the experiments were continued over more generations than those of Weisman, but until this question is definitely settled it would appear that only the effects of central injuries pass down, while surface injuries leave no mark on the offspring.

The occurrence of maternal impressions, in the face of the evidence presented by Drs. Fordyce Barker, and our esteemed president can scarcely be questioned. These instances doubtless owe their origin to the influence of the mind over matter, and indicate that in the animal at least the nerve-centers play a very important role in normal and abnormal cell-mechanism. If mental operations, whether momentary or lasting for days, are sufficient to produce abnormal cell-mechanism, we can readily see, how in the constitutional states or so-called diatheses, which abnormal habits of life tend to induce, the impression is gradually but surely made upon the cell elements of the body, and when once firmly rooted, a change in the cells results, which is reproduced in succeeding cells, and transmitted to the progeny. While I do not consider this by any means an elucidation of the question it serves to indicate at least how the transmission of vulnerable anatomical elements from the parent to the offspring is possible.

The whole subject is of interest and practical importance, for if we recognize an hereditary predisposition to disease we will, of course, recommend such measures as may prevent the manifestations of the threatened disorder. Since hereditary predisposition generally manifests itself whenever some deficient condition has been supplied, it is quite possible that it may be broken up by the introduction of normal factors. Thus, for example, the liability to gout may certainly be lessened by proper hygienic rules, such as attention to diet, skin, bodily exercise, while the pre-

disposition to tuberculosis may be arrested by proper food, fresh air, sunlight, systematic exercise, and such other factors as may increase the power of resistance.

This brings us to the question of immunity, or, if you please, a certain opposition to disease, as shown by the fact, that man or animals, in spite of being exposed to the influence of morbid agents, do not develop the disease. Immunity, like predisposition, may be inherited, as shown by the exemption of many children and adults from certain infectious diseases. Medical literature points to many families in whom hereditary proclivity and immunity were well demonstrated, and instances are not infrequent where these peculiarities affect the males and not the females and vice versa.

There is also a racial immunity and proclivity to certain diseases; thus, for example, the pure negro is less susceptible to malaria, yellow fever, diphtheria, and trachoma. Livingstone as early as 1858 called attention to the fact that the negroes of the southwestern part of Africa recover from all venereal diseases without any treatment whatever, and that it appears impossible to perpetuate syphilis among them. The only explanation I can offer is, that perhaps the disease was so common among their forefathers that a certain amount of tolerance to the virus has been acquired and transmitted. Be this as it may, it is a fact, that the introduction of measles and other eruptive fevers into a community for the first time, or whose isolation had prevented its invasion for a long previous interval, spreads through a whole population, and usually with frightful mortality. I have witnessed an epidemic of measles among Indians affecting every member of the band, one out of three died. The oldest people of the tribe assured me that they had never seen the disease before. Similar observations were recorded in the Fiji and Faroe Islands, and as regards smallpox at Iceland and elsewhere.

Racial immunity, however, is to a great extent broken up, when one race mingles with another; we see this especially in the half-bred Indian and in the mulatto, neither of which are as robust as either of the races from whence they came. They are typical examples of physical or racial degeneracy, because they can no longer

resist the disease-producing causes which are afloat, whether they be germs, climate, food, or whatever their nature. The North American Indian, and perhaps also the negro of this country, are at the present time peculiarly liable to tuberculosis, but this predisposition may be altogether of modern origin, and due, apart from intermingling with other races, to a radical change of living, both as regards habitation and food. We know from experience that a certain amount of immunity may be acquired by attention to the laws of health, and the so-called hardening process, which increase the power of the system to disease, and can readily understand, how a change from the tepee or hut with ample natural ventilation, to the school-house and home, and an abrupt change from the coarser cereals to refined flour, may produce a vulnerability of the respiratory and gastro-enteric tract. Then, too, the consumption of tuberculous beef eaten raw or nearly so by the Indian instead of wild game, may be a factor in the frightful prevalence of this disease.

It is a well-established fact that an individual once the subject of infectious diseases, like measles, scarlet fever, chicken-pox, small-pox, mumps, whooping cough, typhoid fever, cholera, etc., usually enjoys immunity from a subsequent attack, which implies that the blood or cells have been so altered that for a time at least they are no longer liable to be acted upon by the same poison. If a second or third attack does take place they are usually of a mild type, evincing therefore a protective influence from the former attack.

We also see that a certain amount of immunity may be attained by medication and preventive inoculations, as in the administration of quinine and arsenic in malaria, vaccination against small-pox, antitoxins in diphtheria, erysipelas, cholera, not to mention the preventive inoculations in hydrocephalus and diseases of the lower animals.

When we remember that laboratory experiments have clearly shown that sometimes the slightest chemical change of the culture media, such as neutralization of an acid or alkaline medium, or the addition of minute quantities of metallic salts, etc., at once influences to a marked degree the development of many disease germs, we can readily understand how the advocates

of the retention theory, attributed immunity to the presence of some chemical agent or of modified bacterial products, the antitoxins in the blood or tissues of the system which inhibit the development of the microbial invader.

While it is conceivable that such a condition may last for a few weeks or months, there must be a period when these antitoxins in the process of metabolism are completely eliminated from the system, and yet time and experience have certainly demonstrated that immunity, more or less complete, can be conferred upon the individual, not only by preventive inoculations, but also by a former attack.

Now, what appears to be the most plausible explanation? Right here it is well to remember that infectious diseases do not exist merely because some noxious micro-organisms have taken their abode in the system, for this takes place often enough, but they exist because functional and structural changes have been brought about through the agency of the toxins evolved by these organisms.

It seems to me therefore that in these cases of immunity we are dealing with a question of *tolerance*, which has been established in the cells, and nowhere else. The cells having been exposed to the influence of these poisons are changed in their molecular structure, and when thus changed, their structural and physiological peculiarities are reproduced in succeeding cells.

In brief, acquired and artificial immunity is due to the inaptitude of the cells to feel the effects of the same toxins evolved by subsequent bacterial invaders.

We see the evidences of acquired tolerance almost daily in persons, who have become the victims of enslaving drugs, taken in sufficient doses to kill a dozen other men, and more than this, we see this tolerance in the form of hereditary immunity transmitted in succeeding generations, and how? simply through the agency of the parent cell.

This question of tolerance probably explains racial immunity, and many other obscure points, for there are persons who breathe polluted air, and consume water or food absolutely unfit for human beings, and yet pass through life without an attack of zymotic disease. Such instances can only be explained on the ground of

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inherited or acquired tolerance, or the production of so mild a type of the disease as to escape recognition. But this explanation is not applicable to all infectious diseases, for there are a number of diseases in which one attack affords no immunity from subsequent attacks; in fact the susceptibility is rather increased. This is true of malaria, gonorrhea, croupous pneumonia, septic infections, and erysipelas, nor are the subsequent attacks, except perhaps in erysipelas, of a milder type.

I am not prepared to offer a satisfactory explanation for this increased vulnerability, for even if we are dealing with the establishment of a locus minoris resistentiae in gonorrhea and pneumonia, this could scarcely be said of malaria.

The subject of individual predisposition and immunity in infectious diseases may be summed up by stating, that certain diseases can only result when the avenues for the invasion of pathogenic bacteria are open, and the system offers a suitable soil for their proliferation. Her-

editary and acquired tolerance doubtless plays an important role, just as some systems are peculiarly susceptible to the physiological effects of certain drugs, and others are not, so it may be in relation to morbid agents.

Many persons apparently immune may have had the disease in a mild form, so mild, in fact, as to escape attention. We recognize mild, medium, and severe types of scarlet fever, diphtheria, measles, etc., and there may be still milder types differing in degree, but not in kind.

Since the system possesses defensive forces against microbial invaders the question of dosage is not without importance. While the potency of germs in diseases, like glanders, tetanus, septic and puerperal fever, is very great, and the bacilli of anthrax may even be inoculated by the sting of insects, implying a very limited number, inoculation experiments, of which vaccination is a familiar example, teach us, that certain concentrations are necessary for success.

### THE IMMORALITY OF THE ANTI-VIVISECTION MOVEMENT.\*

Compassion with the suffering is a virtue; indeed it is that virtue which in itself constitutes humaneness and which, wherever absent, changes a man into a brute, a wild beast of prey. Let us therefore by all means foster this gentlest of all virtues, which is the main jewel in the crowns of the two greatest religious leaders of the world—Jesus the Nazarene, and Gautama the Shakyamuni. But compassion should not be allowed to grow rank; compassion is a sentiment, and he who yields to sentiments without subjecting their exercise to criticism and discrimination, ceases to be a man of moral responsibility and degenerates into a creature of instinct. Compassion as a blind instinct is unquestionably a nobler fault than wrath, but as a passion it is a fault, it is sentimentalism, and its influence can become the more baneful the less its deficiencies are anticipated. Thus an untruth in the mouth of the erring who honestly believe it to be a truth may be more dangerous than an ethical falsehood pronounced by a liar.

The anti-vivisection movement, as it is carried on, is in this sense guilty of immorality, and we deem it our duty to state our views of the subject openly and frankly. We do not doubt that the anti-vivisectionists are noble men and women ensouled with the noblest of all virtues, compassion for the suffering, but they lack upon the whole the most essential of all virtues, which is thought, discrimination, discretion, consideration of consequences, a surveying of the situation and a weighing of the implications of the question as well as the results to which it leads.

Not to be misunderstood, the writer of this article states at once that he sanctions all those aspirations which tend to alleviate suffering of all kinds, in man and in animals, not excluding even the insects and the vermin which molest our life. He would condemn all contrivances and traps which involve unnecessary pain or produce suffering; but for that reason he would not demand that we should not resist those creatures, be they small or great, that are pestiferous and obnoxious. There

\* DR. PAUL CARUS in the *Open Court*.

is no merit in sparing the life either of a tiger or a louse; but it is a vice to take delight in torturing a wild beast caught, and also in prolonging the death-struggle of a fly. It is our moral duty to resist evil, but we should not resist evil with evil. Let us combat evil and all the creatures representing evil in an honest and square fight, but having conquered them, let us not delight in their destruction, for even the meanest and most wretched creatures deserve our compassion; they are the products of circumstances and cannot help being such as they are. Being evil, they deserve destruction, but he who finds pleasure in serving as their executioner becomes vicious in exactly the same degree that he yields to the passion of hatred and vindictiveness.

Mark well that whenever a murderer is condemned to die, that the law must condemn him and not the judge. The judge only pronounces the judgment, and the executioner is an instrument of the law, not a murderer. A judge who hates the criminal is in his heart guilty of an offence similar to that for which the criminal is condemned. A true judge has a sorrowful heart, and great is his responsibility.

The two greatest religious leaders of mankind, Buddha and Christ, have taught us to have compassion, but neither the one nor the other prescribed to avoid once and for all the infliction of any suffering. On the contrary, they taught that suffering is unavoidable. Buddha did not say that salvation is obtained by yielding unreservedly to the sentiment of compassion; he taught salvation by enlightenment. The bodhi, or enlightenment, is higher even than compassion which implies that the compassion which we must exercise towards all suffering beings is subject to the discrimination afforded by the light of the bodhi. And Christ's mission is mainly a lesson of sacrifice which means that salvation is obtained through suffering. There is no sentimentalism in either case.

Now we ought to bear in mind that the moral man should never yield without previous deliberation to a sentiment or passion of any kind, not even to the gentlest and noblest, such as charity, compassion, love. Be full of charity, compassion, and love, but do not yield at once to every gentle motion of your heart, for your charity

may be misplaced and your love may do more harm than good.

A noble zeal for truth was the original motive that begot the Inquisition; and a genuinely charitable spirit has pampered pauperism in Italy and other Christian countries.

Therefore we must beware of yielding to sentiment, for every kind of yielding to sentiment is self-indulgence and will be productive of good by haphazard only in the same way that an animal may perform a moral deed if his disposition at a certain moment happens to be excited in the right way.

The anti-vivisection movement we cannot help regarding as such thoughtless yielding to sentiment. The sentiment is noble and evinces a gentle disposition of the heart, but whether it is moral, whether it is right, whether it leads mankind upward is another question; and it appears to us that it cannot stand a careful weighing of all the pros and cons. Before the tribunal of ethics it stands condemned as much as all those other sentimental aspirations, indiscriminate alms-giving, the burning of the bodies of heretics for the sake of saving their souls, and showing mercy to the tiger because he ought to have a chance of reforming and might learn to eat cabbage and grass like a lamb.

This life is a struggle and only the courageous will conquer. Courageous is he who does not fear to leave his body on the battle-field in order that his aspirations, his cause, his soul may be victorious. But shall we be courageous only so far as our own individuality is concerned; must not the leader in battle have courage for the whole army. Indeed he must. Victory is gained only by sacrifices, by the wounds of the gallant, by the death of the brave.

Count Moltke had his own sons in the ranks of the German army, and he was a man of the gentlest disposition, kind, compassionate, and taking pity even upon the sufferings of a dog. Yet for a great purpose he was determined to make any sacrifice that was necessary to achieve it, and he said that "a whole regiment of soldiers had fulfilled its purpose if at a critical moment they were all slaughtered for the sake of delaying the enemy ten minutes."

As to vivisection, we all know that it is not a pleasant duty of the physiologist,

but it is an indispensable task that must be done for the sake of investigation. It falls within the same category with all sacrifices. Should science neglect to search for light in this most important domain, the domain of life, its representatives would be guilty of a gross neglect of duty. They would be like generals who would retreat before the enemy, because the enemy's bullets endangered the lives of their soldiers. They would be like an officer in the fire department who, inspired by the idea of not causing pain to anybody, would recall his men from the burning building when they ought to rescue its inmates, because the firemen might blister their hands.

Vivisection may truly have, and frequently will have, the tendency of blunting the sentiments of the vivisector; but so does dissection. Shall we surrender dissection as an obligatory part of medical instruction lest the moral sense of the student be shocked? There are a few quack schools of medicine in this country which undertake to educate physicians, but their degrees should not be recognized, for they leave their graduates ignorant on one, perhaps on several, most important subjects. It is true enough that the human body in its wretched nakedness is subjected on the dissection-table to most undignified treatment, which is liable to make the student vulgar and rude; but for that reason we cannot abandon dissection. The right thing to do is to teach the student the moral aspect of dissection and put him on his guard against the demoralizing influence of the dissection table. Do not cut him off from one of the best sources of information, but strengthen his moral nerve that he can bear the view of the Medusa without having his heart petrified by the sight of her terribly ugly features.

The anti-vivisection movement might be excusable if there were any valid arguments to prove that vivisection is useless. But the very opposite is the case. Innumerable discoveries of the most beneficent kind have been made through experiments on animals.

An anti-vivisectionist writes that he would rather die than purchase the prolongation of his life with the sacrifice of an innocent animal. That sentiment seems noble and generous. But should we not be ready to kill a million rabbits if we

can thereby save the life of one child attacked with diphtheria? Now the question is not one child against a million rabbits; but many million of children of all the generations to come against a few rabbits; and consider that not man alone, but the whole animal creation, too, is the gainer by every progress of science.

The truth is that all the great scientists who are famous as clever vivisectors are as considerate as possible and avoid all unnecessary suffering. It is of course not exactly impossible that there are among the minor lights of science men ruthless enough to delight in the cruelty of their work, but it is very improbable. I believe that it is painful to vivisectors to be reminded of the fact that their subject is a living being; but whenever they think of it, they cannot help being touched by a sentiment of compassion.

Every compassion is a pain. While the anti-vivisectionist weakly indulges in his sentiment and thoughtlessly yields to the impulse of removing it, the investigator knows that the victim is sacrificed for a great purpose, and he can say to the rabbit on the table before him: "Blessed art thou, poor creature; thou art distinguished among thy comrades and glorious is the destiny for which thou hast been chosen. While most other animals die of direful diseases, frequently under terrible pains, thou shalt give thy life for science; for the sake of revealing the mysteries of existence and for the purpose of giving us instruction as to how some of the ills that flesh is heir to may be cured. Blessed art thou; for thy death helps to build up life, and the preservation of the lives of many noble men and women will in part be due to thee. In them and with them thou wilt gain an immortality of a noble kind, which in the same way is otherwise not granted to the brute creation."

There is a great field for the humane societies, and they can do a noble work by elevating mankind and refining its sentiments, and also by protecting the dumb creation against the cruelty of savage masters. We are with them in all these worthy endeavors with heart and soul. In addition they may set their face against any kind of vivisection performed by those not called upon, but when they begin to meddle with science and forbid the physiologist to investigate life in the living

animal, it is time to pronounce the *quousque*.

Vivisection, if strictly kept within the limits of its important purpose, is a moral obligation; and he who would hinder the physiologist in the performance of his duties makes himself guilty of immoral

conduct; but any cruelty to animals, viz., every lack of respect for life, every thoughtless or wilful infliction of pain, every delight taken in torturing, injuring, or destroying sentient beings, is a crime that should be denounced and reprimanded and, if necessary, checked by the power of law.

### THE INFLUENCE OF FRESH AIR IN ACUTE DISEASES.\*

The treatment of acute diseases has been greatly modified within a few years. Radicalism has given place to conservatism. Confidence in the ability to boldly step in and abort or change their course has materially lessened. With the germ explanation of the phenomena of disease has come more rational therapeutic measures, and the effort to remove cause rather than to influence effect. Manifestations of morbid processes that were vigorously and heroically combated are now looked upon as conservative, and only under unusual circumstances and with the greatest caution to be subject to severe remedial procedure. In the contest waged between the cells on the defense and the besieging germs, every effort must be made and every advantage taken to increase cell resistance and to lessen the number and destructive power of the attacking germs.

The influence of fresh air upon germ life to reduce multiplication and activity make it a most essential element in the management of those diseases having a bacterial origin. While so easily supplied and so important, it is a much neglected advantage. That the life cell does conquer and prevail in a germ-laden, vitiated atmosphere is true; but that the resistant forces are greatly handicapped in the contest is also true, and I believe that a certain proportion of the mortality in the zymotic diseases, especially, is due to the lack of care in this particular.

Air deficient in oxygen and loaded with the results of organic waste, while endured without serious consequences in health becomes a menace when metabolism is perverted and the equilibrium between assimilation and elimination is no longer maintained. The unburned products of

tissue change are stored up and self-poisoning is added to the already heavy burden, which the resistant forces are called upon to carry.

Livarato has demonstrated by injecting into rabbits the condensed aqueous vapor of the breath of persons suffering from various diseases, that the exhalations are toxic even after sterilization. In many of the diseases of this class reinfections occur. Under conditions unfavorable to strength of resistance, and well suited to germ development, the system again succumbs and is forced to fight the battle over. This is notably true in those diseases in which immunity is not established. In diphtheria it is not an uncommon experience after the membrane has nearly or quite disappeared to have a reformation which must be regarded as a secondary infection rather than a continuation of the primary process. My attention was very forcibly called to this fact several years ago during the prevalence of an epidemic of malignant diphtheria.

At the time I was treating two families of like station and condition of life and so near as I could determine from previous experience with them, of like resistance to disease. The cases were all severe from the outset, and the treatment did not vary materially. In one family I was unable to enforce my directions as to ventilation, while in the other my instructions were followed. In the first I never entered the sick room without feeling that the air was dead, vitiated and heavy with the odor of the disease. Three of these patients died, and the fourth made a tedious recovery. In the second instance, my directions were carefully followed and we had the satisfaction of seeing all recover. The air was as pure in the sick room as out of doors; and on entering

\* WALTER H. SAWYER, M.D., in *The Physician and Surgeon*.

from without, not the faintest odor of disease could be detected. I do not believe we should have escaped without a mortality under less favorable circumstances.

Since then, it has been my custom to insist upon the greatest exposure consistent with the maintenance of a reasonable temperature and the avoidance of discomfort to my patient, with the happiest results. Several times I have gone so far as to open the windows in the extreme winter, protecting the bed with screens, and tempering the air with a fierce wood fire, and without reason to regret the procedure. While I do not think so radical an application of the principle often necessary, yet I do not think it fraught with the danger that comes from an insalubrious atmosphere.

During the Crimean war the troops were attacked with typhoid fever in such numbers that the hospital accommodations were wholly insufficient. Many were treated in tents and it being extremely

cold, the result was looked forward to with the gravest apprehensions. Contrary to all expectation a much larger proportion of those thus exposed than of those well housed recovered. This is substantiated by many instances of our own civil war where the mortality was less to those treated in tents and subject to greater exposure than to those treated in the hospital wards.

Few homes are so constructed as to allow, without especial provision, of a frequent and complete change of air and the solution of this problem should first engage attention. With a laity taught to believe the admission of a breath of fresh air to the sick room is attended with imminent risk to the patient, much opposition is often met, and any complication is sure to be attributed to a wrong cause. A healthy public sentiment should be cultivated and while relieving the profession it would lessen the danger of acute diseases.

### SOME OBSTINATE FORMS OF ECZEMA.\*

The average practitioner usually takes but little interest in, and gives but little time and study to, the interesting field of dermatology. Eczema is a disease of very common occurrence. Statistics tell us that from one-third to one-half of all the skin affections are eczematous. That some of these cases are obstinate, none of you will deny. I have no doubt but that some of you have had cases that you have actually disliked to treat; and perhaps it was even with feeling of relief that you saw them depart to obtain advice elsewhere.

Eczema is really an inflammation of the skin and is characterized by the same phenomena as inflammation elsewhere. Its appearance is modified by its situation, the length of time it has existed, the intensity of the process and by various other factors. This difference in appearance has given rise to the different classifications of the disease so well known to you all.

In treating the disease, we have to consider, usually, but two, or at the most,

three stages. These are the acute, subacute or chronic, and an eczema due to a parasite, or micro-organism, as eczema seborrhoicum and marginatum. An acute eczema may exist as such for a considerable time, the process occurring over and over again. On the other hand, the inflammation may be subacute almost from the first. Subacute, or chronic eczema, represent a decline of the disease. After a crisis in the acute stage most of our obstinate cases are of the subacute variety and have frequently existed for years. The eruption is usually characterized by a thickened indurated base, and by scaling and cracking, rather than by oozing and crusting. There is no specific for eczema.

The remedies which will give the best results are: First, those that will increase the activity of the eliminatory apparatus, such as the saline cathartics, mineral waters, alkaline diuretics, calomel, etc. As a remedy for acute eczema, especially in fat, overfed babies, I hardly think that calomel has the place, or is used to the extent that it deserves. I usually give from one-twentieth to one-quarter of a

\* C. S. ABBOTT, M.D., Laconia, N. H., in *Atlantic Medical Weekly*.

grain twice or three times a week. I have seen some cases of three or four months' duration, which had failed to improve under local treatment, almost entirely recover when calomel was given.

When there is some existing systemic disorder, the remedies of the greatest efficacy are iron, cod-liver oil, the salicylates, colchicum, etc. A great many cases will recover with local treatment alone. If I were to criticize the usual treatment of acute eczema, I should say that ointments were too commonly used, especially in the early stages. Washes, especially black wash, or a wash of oxide of zinc and lime water, followed by the application of zinc and starch powder will in many cases be all that is required.

In an acute eczema accompanied by a swelling, particularly in erythematous eczema of the face, where the swelling of the lids is often so great as to occlude sight, cold lead and opium wash when applied as an evaporating lotion, is very effective. When ointments are used, and they are indispensable in their place, they will be much easier to handle, as well as more effective, when spread on thin cloth and applied, instead of being smeared directly on the eczematous surface itself.

The most useful ointments are, the ung. zinci, ung. diachylon, and those containing some form of mercury.

The secret of success in the treatment of eczema is measures of rest for the acute stage, and measures of stimulation for the chronic stage. Of all the remedies used for the chronic stage, or subacute eczema, some form of tar is easily the prize winner. The form I commonly use is the oil of cade. It may be used in combination with alcohol and green soap, or where a milder preparation is desired it may be combined with zinc ointments in varying strengths, from a mere trace, upwards.

Generally speaking, tar should not be used over a moist patch, but it is the remedy *par excellence* over a dry, scaling surface. Tar in too great strength will do harm. When the itching and oozing is increased after its application, our remedy is doing harm, and it should be used in less strength, or discontinued altogether. The other remedies that are useful in selected cases are ichthyol, potass. permang., pyotkannin blue, chrysarobin,

etc. For a seborrhoical eczema, resorcin or sulph. precipitate, either in a wash, or ointment, are almost specifics. These, then are our remedies which are good of themselves, but which must often be handled as carefully, or used as boldly, as the surgeon's knife, in order to bring about the desired results.

In studying the obstinate cases of any affection it will be found that they occur most commonly in diseases where it is most impossible to discover or remove their causes. Eczema is in no wise an exception to this rule, and when a case of long duration presents itself it behoves us far more to study the etiological factors of the disease than to try and discover some new and potent remedy for it. Notwithstanding that the anatomy of the eczematous skin has been studied by many observers, the ultimate cause of the inflammation, outside of the etiological factors which immediately excite it, are but little understood. Changes suggesting that the nerves supplying an eczematous patch are involved in some inflammatory process, have been observed in a few cases. In others, the skin, which has been the seat of an eczema for a long time, has been seen to undergo a thickening analogous to the fibrosis of certain viscera after their involvement in a neoplastic process. No one micro-organism capable of producing the disease, has ever been discovered. To-day it can only be stated with certainty that the eczematous skin exhibits more or less constantly the results of inflammation, i. e., an infiltration and exudation and at times a superficial degeneration of the inflammatory products.

The exciting causes of eczema are as varied as its appearance. Extremists, on one hand, claim that it is wholly a constitutional malady, and others, that it is purely a local affection. The truth, probably lies wholly in neither of these extremes. The disease may be in one case the result of a constitutional malady, while in another it may be the result of local irritation. Why the same factors should produce a violent outbreak at one time and cause no disturbance at another, is somewhat of a puzzle. In some individuals the skin seems to take on an eczematous habit, and then there are existing either large patches of a chronic variety

for years, or there is a violent outbreak of an acute character, the result of any slight irritation.

The change of the seasons, as well as the extremes of hot and cold weather, seem to be favorable to the disease in some people. I see more cases in the spring and fall than any other time of the year. Rough woolen under garments are also capable of great harm to certain persons.

The one factor which prolongs the disease, often for months and sometimes for years, is scratching. A patient can by rubbing and scratching for two minutes, undo all that has been accomplished by twenty-four hours' treatment. In order to cure our cases the habit must be broken up at all hazards. Often in children, and sometimes in adults, especially during the sleeping hours, the hands must be fastened before any improvement can be made in their condition. Some people are affected only by the extremes of weather, as after an extremely hot or cold spell. In all obstinate cases, attention should be paid to the existence of some systemic trouble, such as diabetes, gout, rheumatism, indigestion, etc. In eczema of the genital region, one should watch for sugar in the urine. I have known of several cases where the patients suffered for some years with an obstinate eczema of the genital region and were cured with little or no local treatment when the diet was regulated so as to stop the glycosuria.

An eczema of the genital region is sometimes very difficult to relieve. The immediate exciting causes are heat, moisture and friction. It is almost impossible to prevent some people from scratching. To relieve the pruritis, the application of hot alkaline bran-water, or compresses, is quite effective, to be followed by the use of a dusting powder during the day and an ointment at night. The carbolized zinc and lime-water wash is also extremely useful in some cases.

In gouty and rheumatic subjects, and people suffering from indigestion, the systemic trouble is often the cause, and the eruption will readily subside when the gout, rheumatism or indigestion, as the case may be, is relieved. Eczema is usually obstinate when situated at the mucous outlets, being kept up by a discharge from the mucous membranes. In order to cure

the eczema we must stop this discharge or protect the eczematous surface in contact. An obstinate eczema of the anorectal region will often be greatly helped by thoroughly greasing the parts before an evacuation of the bowels. In all obstinate cases of this region attention should be paid to the diet, it being a common occurrence in gouty subjects.

Probably as difficult an eczema as there is to relieve is a chronic erythematous eczema of the face, because of its nerves and blood supply, and of our inability to protect it from irritation. It is nearly always made worse after exposure to extreme heat, or, as I have often found it, after extreme cold and strong wind. In these cases a change of climate is often followed by the happiest results. I have a patient that is troubled every winter. The only treatment that has been very successful has been for hr to go South; a few weeks in a warm climate, with the application of a soothing powder, has in her case always effected a cure.

In eczema of the bearded face trouble lies in the beard. The stiff hairs act as levers and keep the inflamed skin in constant motion. These patients should be required to shave every other day, and their recovery will be greatly facilitated. For remedies the more soothing applications are generally used,—the zinc and lime-water wash followed by a dusting powder, or an ointment of

Acid Salicyl. .... gr. x.

Bismuth ..... 3 ss.

Starch ..... 3 ii.

Ung. Aqua Rosae..... 5 i.

This is quite an elegant preparation, and will frequently be found useful in any eczema of the face. If a stimulating application is desired, the mercurials may fill the want. Tar is rarely well borne when applied to this region.

We are likely to find an eczema of great severity occurring either in infancy or in old age. Eczema is exceedingly common in children, especially in those within the first half of the first decade. The skin of a new-born child, in consequence of its tenderness, is extremely susceptible to all external irritations. This disease in children afflicts all classes of society and occurs at all seasons of the year. It affects children of all degrees of health, the strong as well as the feeble. It has no

necessary connection with any disease or diathesis of childhood. It shows itself in equal proportions in bottle babies and those reared at the breast. It is very likely to be made worse by infections from micro-organisms. These play an important part in the eczema of childhood, and it possibly may be shown hereafter that they are the one determining factor. It is certainly impossible to account for many cases on any other basis. If the disease is not relieved, it has a tendency to wear on the child by preventing sleep, and its constant irritation makes it an easy prey for some more serious disorder.

It is a disorder in which the whole family easily becomes demoralized, and often it takes great firmness and ingenuity on the part of the physician to protect the little sufferers from the ignorance and folly of those to whose charge they are intrusted. Those of you who have seen many of these cases will agree that it is one of the most distressing and obstinate diseases of childhood, if not the most serious. A single glance at the crusted head, the intensely red, oozing and bleeding face of a patient should suggest to our minds what is serving more than any one thing to keep up the process and extend it to new surfaces, and that is scratching. The first thing to do in these cases is to remove the crusts. This is done best by soaking in oil, after which they may be readily washed off.

The next problem that confronts us is, how are we to give the skin a rest from

the incessant rubbing and scratching? To do this, we must use forcible restraint, which may seem cruel at first, but which is the kindest thing that we can do in the long run. This method was first introduced or popularized by Dr. J. C. White, of Boston. A skull cap and mask, with holes for the eyes, nose and mouth and ears, is made from old cotton cloth and securely fastened behind. The child's hands must also be fastened to the sides, either by pinning the sleeves to the underclothes, or by passing an old pillow-case over the child's head. For remedies, the inside of the mask may be smeared with a diluted zinc ointment. The course of the disease will often be much shortened by applying black wash as an evaporating lotion for fifteen minutes twice or three times a day. If the disease is sluggish on the head, apply an ointment of sulphur precipitate.

Of course this treatment has to be modified in certain cases. For internal treatment the diet should be regulated. If the baby is breast fed the diet of the mother should be restricted, especially in regard to alcohol; if bottle fed, every case is a study to find out what will agree with our patient. Very often there is not enough fat in the food. If there is indigestion or constipation, calomel, as I have before stated, fills a very important place. When the child is very irritable, bromide of soda may be necessary for a few days until the itching, which always subsides with the disease, is of less intensity.

#### DEPARTMENT STORE HUMBUGS.

Spools of silk: the wood bulging in the center; there is hardly any silk on them. Garden and flower seeds: packed especially for the department stores; "marked down" to 25 cents, the package contains only as much as could be bought for 12 cents at a small store. Seidlitz powders: made of alum and other ingredients not used in real Seidlitz powders. Citrate of magnesia, offered at a bargain for 40 cents a pound: composed almost entirely of white sugar, will not fizz, and is worth about 5 cents a pound. Blood purifier, sold for 35 cents a bottle: worth 5 cents

a gallon. Berlin wool: 16 skeins weigh only 12 ounces, instead of a pound. Wall paper, "worth \$1 the piece:" found to be out-of-date paper that never sold for more than 50 cents at the regular dealer's. Our special gold watches, sold at the low price of \$39.40: regular jewelers never charged more than \$31.50 for them. Tea, sold for 25 cents a pound, advertised as "worth 40 cents:" can be had at any retailer's for 10 to 12 cents, if he keeps such poor stuff in stock. "Forty-two-inch diagonal twill serge, regular price 25 cents; Friday, 15 cents:" sold for 10 cents in a straight dry goods store.—*Bul. Pharm.*

## PERISCOPE.

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**A Peculiarity of Scratches Sustained by Falling from a Bicycle.** —Many practitioners have no doubt been annoyed by finding their prognosis wrong in a class of trivial injuries very commonly met with in these days of the bicycle. A rider sustains a fall, his hands and knees are scratched, a physician sees, cleans and dresses the wounds, confidently predicting that they will be well in two or three days. The prognosis is based upon the apparent superficial nature of the injury, but is found to be wrong. Why is it that these scratches or patches of "macadam eczema," as a layman once called them, are very slow in healing? In doing this the palm of the left wrist was drawn rapidly along the cloth of the table and a thin pellicle of skin was removed. The result was a raw spot exactly like that left by the bursting of a small blister. It was fully three weeks before healing? In the first place they are not at all present several months after the injury was received. Here, of course, the injury was a burn from friction. Even when riding at a very moderate pace, if one falls from his bicycle the forward movement is continued and dirt is ground into the hand, or injured part. This shows that there has been very considerable friction and thus burning as well as bruising is a factor in the case, and more tissue is involved in the lesion than is at first apparent. Another factor is that dirt is ground into or through the skin in such a way that thorough cleansing is often an impossibility. The injuries here discussed are, of course, trivial, but a knowledge of their nature may save one from the annoyance of being far wrong in his prognosis.—*Am. Jour. Surg. and Gyn.*

Every one should know that to eat when tired is to place upon the digestive organs a burden which they are wholly unable to carry. When the body is in a state of fatigue, the digestive organs are unable to perform their natural functions; the glands of the stomach will not form gastric juice; the saliva is deficient in quantity; and the whole digestive apparatus is incapable of doing efficient work. When exhausted, one should rest before eating. If a faint or "all gone" sensation is experienced, relief may be obtained by drinking a glass of hot water or diluted fruit juice of some sort.—*Dietetic Gazette.*

The *Therapeutic Gazette* says that Rosenfeld has obtained good results in the treatment of Putrid bronchitis by the injection of a five per cent. solution of nitrate of silver into the trachea. He asserts that one to two cubic centimeters of this solution may be injected each day without provoking an excessive cough. As a result there is a diminution in the quantity of the sputum, disappearance of its fetid odor and an amelioration of the bronchial symptoms. The treatment is rather bold, but the friends of one with this disease would scarcely mourn his sudden death.

A. Lubbert (*Z. f. Hyg. u. Inf.*, xxii, 1), studying the bacteria first observed by Flugge, which peptonize milk, found that such milk, kept for twenty-four hours at a temperature of 37° C., was poisonous and even fatal to young animals, through the formation of toxins, since no bacilli were found in their stomachs. Dr. Lauder Brunton has treated of the poisons formed in peptic digestion. These observations of Lubbert's suggest the expediency of freshly peptonizing milk for each meal, instead of preparing enough for a day's consumption and attempting to arrest the further peptonization by boiling or keeping it in ice.

J. W. Irion (*New York Medical Journal*) reports the following case of precocious menstruation in a healthy child born October 10, 1895: On the seventh day a bloody vaginal discharge was observed which lasted without other symptoms for four days. In December the flow did not occur, but the child suffered from the usual adult symptoms of suppression, and eczema broke out over the entire body. The suppression was attributed by the mother to a cold bath. Since December the flow has been regular and the child's health excellent. The mons veneris and breasts are considerably developed, the latter enlarging and becoming somewhat sensitive during the flow. The mother is a healthy German woman with one previous child, a vigorous boy. She herself began to menstruate at the age of thirteen years.

McCLINTOCK (*Jour. Amer. Med. Assn.*) apparently demonstrates quite conclusively that hypodermatic injections of moderate quantities of air do not have the deadly effects feared by the general practitioner. By a series of experiments on various animals he shows that small amounts of air, such as might be injected accidentally when giving medicines hypodermatically, produce no ill effects whatever.

Clark in the *Am. Jour. of Obstet.* brings forward clear clinical and scientific evidence which tends to support the growing mistrust of the drainage tube in abdominal surgery. Mechanically it is not to be trusted. Its presence handicaps the peritoneum in three ways: The normal peritoneal currents are disturbed, so that the circulation of fluids and foreign matter towards the diaphragm is retarded. An active inflammation is set up about the drain, limiting and impeding the action of the peritoneum. Thirdly, within a few hours the general peritoneum is cut off from all participation in the work of absorption by the wall of adhesion around the drain. Sinuses and hernia not infrequently follow the use of the tube. Infections through the tube may undoubtedly occur. Hunter, Kopp, Kelly, and others report badly of the tubes after long experience. Kelly tried the Mikulicz gauze bag in 40 cases, but it proved little more effective than the simple gauze within the tube. The pieces of gauze within the tube were easily removed, but the gauze bag itself was often difficult to extract, and, except that it checked oozing more effectually, was not superior to simple gauze. Lastly, in the Johns Hopkins Hospital, the great frequency of the infection of drains, as demonstrated by the bacterial examinations and the rarity of living proogenic organisms in the diseased structures, has caused the almost complete abandonment of drainage as a means of removing infectious matters from the peritoneal cavity.

Dr. Fornaca and Dr. Micheli, of Professor Bozzolo's clinic in Turin, have made a series of trials of the effects to be obtained by injecting oil under the skin. They find that a dose of from 30 to 200 grammes introduced in this way is rapidly absorbed, and that it produces a marked decrease in the quantity of nitrogen eliminated, thus of course allowing more to remain in the tissues without undergoing metabolic change, the body weight increasing and the general condition being improved. It would appear that oil introduced subcutaneously has much the same nutritive value as when it is ingested, and produces better effects than when it is injected per rectum. Indeed, it seems to these investigators that the hypodermic might be substituted for the rectal method in most of the cases in which the latter is usually employed. Two of the subjects on whom observations were made were suffering from diabetes. In one of these cases 1,780 cubic centimetres were injected in the course of thirteen days, and produced a remarkable diminution in the quantity of nitrogen eliminated and in the amount of sugar excreted, together with a slight increase in the body weight. No alteration was found in the quantity of urine passed. In the other case it was not possible to inject more than 310 grammes in four days, but even this small amount produced some decrease in the amount of nitrogen eliminated.—*Lancet.*

Biernacki (*Wien. med. Woch.*) discusses the diagnosis of chlorosis, which is often difficult, as none of the symptoms can be considered pathognomonic. Much stress has been laid on the color of the skin, and this has generally been supposed to be due to deficiency of hemoglobin; but this the writer has found to be incorrect, for with the appearance of profound anemia there is often only the slightest chemical change in the blood, while with no apparent anemia the change may be profound. The color of the skin does not necessarily depend on the amount of hemoglobin present; there are other coloring matters in the blood of which little is known at present, and it is to these that the color of the skin is due in chlorosis. Many of the symptoms—for example, dyspnea, headache, etc.—have been attributed to deficiency of oxygen consequent on the deficiency of hemoglobin, but deficiency of hemoglobin does not necessarily diminish the amount of oxygen present, for it has been shown that there may be even more oxygen than normal in such blood. The writer considers that great stress is to be laid on the clear appearance of chlorotic blood, and it is to this clearness, due to some anomaly of the blood pigments, in which hemoglobin plays little or no part, that the color of the skin is due. The color of the skin, however, is not essential to the diagnosis of chlorosis, which may exist with healthy-colored cheeks; in woman at the climacteric symptoms are sometimes seen exactly like those of chlorosis, with the exception of the color. The most constant change in the blood in chlorosis is hydremia—that is, deficiency of albuminous bodies, and although the prognosis of chlorosis cannot at present be determined by examination of the blood, the writer fancies that cases with profound hydremia get well more quickly than those with only slight hydremia.—*Brit. Med. Jour.*

**Effect of Drugs on Secretion from the Tracheal Mucous Membrane** is thus classified: 1. Alkalies increase secretion. 2. Potassium iodid increases secretion. 3. Emetin markedly increases secretion. 4. Saponin in small doses does not increase secretion; in large doses it decreases secretion. 5. Cold, when applied to the abdomen, increases secretion. 6. Heat, when applied to the abdomen, decreases secretion.—*Ex-change.*

**Strangulated Hernia** is an accident which belongs to no especial period of life, and whether it occurs in youth, in old age, or in early infancy, there is no palliation, no compromise; one indication and only one exists, and that is to reduce the hernia—by gentle taxis (very, very gentle), when this is possible, and, when not, by cutting the constriction. There are five locations where hernia commonly occurs: the two groins, the two femoral regions, and at the navel.—*International Journal of Surgery.*

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What appears to be both a simple and effective method of dealing with hydroceles has been practiced for the last couple of years by Dr. Pilate and Dr. Vissemans in the Orleans Military Hospital. It consists in the washing out of the cavity of the tunica vaginalis—after evacuation, of course—with a weak solution of carbolic acid. The surface is first cleaned with soap and brush and then washed with a solution of mercury perchlorid. The trocar is then inserted, and after the serous fluid has been drawn off warm carbolic water of the strength of three per cent., which has been previously boiled, is injected. This is allowed to come out, and is seen to be turbid, containing fibrinous flocculi. The washing out is repeated four or five times until the liquid emerges from the canula quite clear. The instrument is then withdrawn and the puncture closed in the usual way, a suspensory bandage being put on. Owing to the anesthetic effect of the carbolic acid the patient feels no pain. Some further effusion into the sac usually occurs in four or five days, but this soon subsides and the patient can resume his ordinary work. He is advised, however, to continue to wear the suspensory bandage for a time. This treatment has proved quite satisfactory, but is only recommended in simple cases occurring in young subjects.—*Lancet*.

O. Rosenbach (*Berl. klin. Woch.*) says the prognosis is more favorable in emotional dyspepsia than in any other nervous dyspepsia if the patient has not become hypochondriacal owing to the long duration of the ailment, or owing to a neurotic predisposition. It is unfavorable when he broods over it, suspecting some severe organic disease, but even here it is not hopeless. It is important to investigate the digestive processes, as the proof that the food stuffs are really digested almost always makes a favorable impression on the patient. It is better here not to give a test meal, but to withdraw a portion of the stomach contents after the midday meal, for the patient is often at his worst in the morning. Treatment is particularly successful when a single emotion has been the cause of the dyspepsia; the success of the treatment is interfered with by successive shocks. The demands made upon the stomach should be diminished as much as possible after any emotional shock, but a total abstinence from food is undesirable, unless there is a loathing for it. A certain amount of occupation, walking exercise, and light muscular gymnastics is in most instances to be recommended, but both mental and bodily fatigue are to be avoided. Drinking warm water, and warm applications to the epigastrium are employed to counteract symptoms of colic and spasms. Cold food, etc., should be avoided. The author says that small doses of narcotic and sedative remedies, such as opium and belladonna, are useful when given not on a full stomach.

Even a small quantity of cognac is recommended under these circumstances. When digestion is considerably prolonged, washing out the stomach is serviceable, or when that is not practicable pepsin and hydrochloric acid may be given. Sodium bicarbonate can be given in some eructations, but this remedy can easily be abused. The modern method of overfeeding is never employed by the author in this affection, even if there is wasting. In cases of marked hyperesthesia of the stomach cocaine may be given with good results. Treatment directed to the mental condition is often more efficient than the use of the prepared food stuffs so popular at present. Prophylaxis is not to be overlooked, and here the author again recommends the use of small doses of opium, belladonna, cognac, etc. Some interval should be allowed to elapse after the emotional shock before much food is taken.—*Brit. Med. Jour.*

Buttermilk, which at one time was thought only fit for the hogs, as its virtues are better known is eagerly sought after as not only a healthy but a very pleasant drink, especially by the dyspeptic and old people. Down in the vicinity of Wall street the other day we noticed a stand on the corner of Liberty street, around which several old men, most of them millionaires, were gathered, drinking great glasses of rich, iced buttermilk. This, one of them said, was his lunch, and he often came downtown to get his drink. The lactic acid dissolves the phosphate of lime and keeps the blood in good condition, thereby preventing or retarding that ossification of tendons and arteries so common in old people.—*N. Y. Med. Times*.

The *Lancet* quotes Lutaud as saying that very competent men have mistaken a pregnant uterus for a fibroid, and removed it. Three years ago a surgeon in Paris, apparently relying too much on his assistants for the clinical examination of his patients, opened the abdomen of a woman supposed to be suffering from a genuine fibro-myoma. When exposed, the uterus looked very much as though simply enlarged from pregnancy. Nevertheless, he removed it, and found a four-months' fetus in its cavity. Believing that it had remained there for a long while and was macerated, he dropped it into alcohol. To his horror it moved vigorously as it fell into the preservative fluid. A less tragic and more remarkable case occurred about the same time at Bordeaux. An enormous uterus was cut away from its pedicle, and put aside in a corner of the room. The stump was carefully cauterized and dressed, and the patient put to bed with due deliberation. The uterus was then laid open. A great quantity of amniotic fluid escaped, and a live six-months' child discovered. It was successfully reared, and the mother was also saved.

Sainton (*Revue d'Orthop.*) states that in cases of faulty position of the thigh, with complete ankylosis of the hip, osteotomy near the upper extremity of the femur is the safest and most effectual method of treatment. If in cases of distortion and stiffness following hip-joint disease, there be still some movement at the joint, and the displacement and rigidity be due to contraction of muscular and ligamentous structures, the limb may usually be restored to a correct position by simple manipulations whilst the patient is under the influence of an anesthetic. This plan of treatment, however, is held to be a dangerous one by the author, who reports five cases in which, after an apparently successful result, death occurred from tuberculous meningitis in the course of two or three months. The relation of the fatal meningitis to the surgical treatment is suggested by the fact that this event occurred in no less than 19 per cent. of 27 cases, in which Kirmisson restored the normal position of a limb distorted after hip-joint disease by a bloodless and not very forcible procedure. The danger of meningitis and other results of tuberculous infection is due, the author believes, to the breaking up of encysted caseous deposits about the seat of the old articular disease.—*Brit. Med. Jour.*

Recent experiments show (*Hardwick's Science Gossip*) that oats contain a substance easily soluble in alcohol, which has an irritant action on the motor cells of the nervous system. It is a nitrogenous substance, apparently of an alkaloid character. The quantity present varies according to the quality of the grain and the soil on which it is grown. The darker varieties contain more than the light. Its composition is given as  $C_{16}H_{21}NO_{11}$ . The bruising and milling of oats diminishes the quantity of this substance very rapidly, but it is quicker in its action. Authorities declare that the increase of dyspepsia, especially among young persons, is largely attributed to the extensive use of oatmeal.

For some time past Dr. Queirolo, Professor of Clinical Medicine in the University of Pisa, has been in the habit of feeding cases of typhoid fever entirely by the rectum in order to afford the diseased bowel complete rest. The nutrient enemata are given four times daily, and consist of triturated meat and pancreas with a few drops of laudanum, each injection being preceded by irrigation of the bowel with boracic acid—the plan, in fact, advocated by Leube. The patients are allowed to drink hydrochloric acid lemonade. In this way the digestive tract is preserved from putrescible substances, and thus Dr. Queirolo considers obviates one of the most fruitful sources of auto-toxic action. All the cases treated on this system, many of them of a very severe type, are stated to have recovered.—*Lancet.*

**Sterilization of milk is not the cause of some children failing to thrive on artificial food.** According to H. Lahmann (*Allg. Med. Cent. Ztg. Pediatrics*), the anemia, rickets, scurvy, etc., is due not to the sterilization of the milk, but to the strict milk diet. Milk contains too small a quantity of iron, soda and lime, materials which are absolutely necessary for nutrition. The acute digestive disturbances formerly met with were not as dangerous as the present one-sided feeding. He uses milk which he orders boiled on a water-bath for ten to thirty minutes; but he adds to it his *vegetable milk*, and prescribes, after the twelfth week, fruit juice. The fruit juice is to be followed by half a bottle of the above mixture of vegetable and animal milk. He claims excellent results with this diet, to which he adds after the fifth month, a meal of vegetables. For fruit juice he prefers oranges, but the juices of other fresh fruits (cherries, strawberries, blackberries, plums, pears, apples,) may be given as substitutes. The boiling of home-made fruit juices is not necessary, others are to be quickly boiled and skimmed. Where fresh fruits cannot be obtained, the juice of baked fruits or home-made preserves may be used. Never should canned fruit, however, be employed. Where there is a tendency to constipation he orders these fruit juices to be given even earlier than the third month. Of vegetables the child receives once daily; at first a pap of spinach, later any vegetable may be given. A mixture of vegetables and rice, equal parts, boiled together and strained through a sieve, he considers preferable. Vegetables are better borne by infants than the usual toasted breads and paps, which, on account of the absence of nourishment in them, are to be condemned.

Viggo Essman (*Hospitalstidende*) records the case of a woman, 33 years of age, who had menstruated regularly since the age of 17, and who had become pregnant after the operation of ventrification of the uterus and repair of the perineum "ad modum Tait." She had twice previously been pregnant, ten and eight years ago respectively, and prolapse of the uterus, necessitating the ventrification (in 1891) had come on soon afterwards. During the third pregnancy she developed a marked ventral hernia in the region of the lower part of the laparotomy cicatrix; for this she wore an elastic abdominal belt. In the hernial sac, and adherent to it, was part of the gravid uterus; there was some ulceration of the sac wall, and slight hemorrhage from the cutaneous veins. She was kept lying in hospital during the last two months of pregnancy. Labor was tedious, the child presented by the feet, and after twenty-four hours the cervix was sufficiently dilated to allow of its extraction. The uterus contracted well; and the placenta was spontaneously expelled; and there was no *post-partum* hemorrhage. The ventral hernia is to be operated upon later.

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Vedeler (*Centralbl. f. Gynak.*) investigated 310 sterile women, and found that undoubtedly gonorrhea is the most frequent cause of sterility. The average years of marriage in the series were three, the minimum one complete, whilst 72 of the women had been married over ten years. Vedeler succeeded in examining 50 of the husbands, and found that 38 had had gonorrhea and 34 had infected their wives. He calculates that at this rate 235 of the 310 husbands probably had had that disease, and that about 210 must have infected their wives. Lest this calculation should seem fanciful, Vedeler investigated 198 of the women where the health of the husband could not be satisfactorily determined, and found that they had suffered from local inflammatory changes, just as in the case of the 34 whose husbands had undoubtedly infected them.—*Brit. Med. Jour.*

Anjello and Parascandola conducted numerous investigations concerning the cause of death after burns and conclude that the deaths are caused by toxic ptomaines. The ptomaines of burnt organs are the same when the organ is first removed from the body and burnt. Healthy animals inoculated with this die with the same symptoms as burnt animals. Death after burning is therefore due to the absorption of ptomaines produced by chemical changes in the tissues due to burns. The immediate removal of the burnt part prevents this absorption, and consequently all specific symptoms of the burn and death. The same objects may be attained by venesection and the immediate transfusion of healthy blood or artificial serum.—*Am. Med. Bull.*

Lennhoff (*Berliner klin. Wochenschrift*, 1896, No. 48,) suggests the use of the warm bath as an aid to diagnosis. This has been used at times by others, but Lennhoff has for some time practiced it on a large scale. The patient is placed on a support suspended from the sides of the bath. After ten or fifteen minutes in water as hot as can be borne, the skin becomes soft, the muscles relaxed. Many things can then be felt in the abdomen and pelvis that are otherwise inaccessible. There are all the advantages of narcosis, with the ability to control the patient's movements at will, and so assist in the examination, as in palpating tumors affected by respiration.—*Ohio Med. Jour.*

Buccelli (*Riv. di Patolog. Nerv.*, 1896, p. 327) concludes from his investigations of 200 patients with nerve and brain troubles, and others, that tobacco affects the normal nervous system to a comparatively trifling extent, but as soon as the condition of perfect integrity is impaired, its effect is extremely and progressively pernicious. The subcortical and bulbar nerve centers suffer particularly then from the toxic effect of tobacco.

Dr. J. E. Ferran (*Am. Med. Surg. Bull.*), in an article entitled *A Contribution to the Treatment of Chronic Nephritis* advises a vegetable and fish diet under the following circumstances:

1. When the quantity of urine passed exceeds 800 grams in the twenty-four hours.
2. When the urea and the density are somewhat augmented, or, at least, normal.
3. When there is increase of phosphates and phosphoric acid.
4. When the quantity of albumin is not exaggerated, nor subject to great variation. He desires to note that, in order to estimate the real quantity of albumin, he would recommend not to use Esbach's apparatus, owing to the fact that its reaction at the same time precipitates mucin, peptone, etc., which are causes of error.
5. When there is not great abundance of granular casts.
6. When the general condition is satisfactory.

In his recently published work on "Functional Disorders of the Nervous System in Women" (*Charlotte Med. Journal*), Dr. McGillicuddy emphasizes the value of beef in the diet of neurotic patients. His remarks on this head are as follows: "Of especial value are the proteid or tissue building foods, and the one which stands at the head of the list, because of its utility in these cases is beef. It is difficult to show the importance of the selection of a correct amount of the different classes of food. If a certain class is taken in excess there is imperfect assimilation, and disease slowly but surely results. I have known fatal diabetes to result from excessive indulgence in raisins. Oatmeal mush, fermented in the intestines, is a common factor in the production of nephritis. A vegetable diet contains an injurious amount of the carbohydrates and too little of the proteid element, which in this combination is difficult of digestion. That a meat diet with a moderate proportion of carbohydrates is the best food for neurotics has been frequently demonstrated clinically. Milk has not so great a food value as meat because of the sugar it contains, its lack of reparative material not four per cent of proteids, and the great danger of its being impure. In view of the repugnance to a meat diet which sometimes exists in neurotic persons, some authors have recommended the addition of somatose, which is a concentrated preparation of the nutritive elements of meat in the form of albumoses. This product does not tax the digestive organs, and being practically tasteless and odorless and soluble in all ordinary fluids, it can be administered in a variety of ways to suit the palate of the most fastidious patient. Owing to the ease and completeness with which somatose is digested and assimilated and its stimulating effect upon the appetite a rapid gain in flesh and strength follows its administration with improvement of the nervous disturbances."

Romberg (*Berl. klin. Woch.*) remarks upon treatment of chlorosis. He observes that every-day observation shows that iron cures chlorosis. He has seen five cases in which other treatment, continued from one and a half to four weeks, produced no improvement. The author has treated cases with "carniferrin," saccharated carbonate of iron, and also with ferratin. Carniferrin contains 30 per cent. of iron in as firm combination as hemoglobin. Romberg contends that we are no longer able to speak of absorbable and non-absorbable preparations of iron. The iron leaves the intestine in a micro-chemical form, but it remains to be shown how it is converted into the iron of the blood. The mode of absorption of the various preparations of iron is the same, but it is possible that one preparation may be absorbed in larger quantities than another. It was not proved that the more stable combination of iron in carniferrin was better absorbed than the looser one in the saccharated carbonate of iron. It is only necessary to give small doses of carniferrin. This agent was given in doses of 0.6 gr., the carbonate of iron in 1.8 g., and ferratin in 3-g. doses. The results obtained were much the same. Fifty cases treated with carniferrin showed a percentage of 64 cured, the average duration of the treatment being 30.3 days. About 64 per cent. of 47 cases treated with the carbonate recovered in an average of 22 days. Six out of 12 cases treated with ferratin were cured in an average of 27.1 days. If all the cases are added together, the average duration of treatment was 26.5 days, and the average increase of hemoglobin in 10 days was 9.9 per cent., and of the red cells 430,645. Leaving out the cases treated by ferratin as too small in number, the agreement between the results obtained by the two other preparations was striking. The author has never observed any gastric disturbance produced by the treatment. The agents were given in powder after meals. One preparation did not prevent relapse any more than another. Those treated as outpatients did not recover as rapidly as those in the hospital. The severe cases improve much more quickly than the slight ones. The hemoglobin steadily increased in a regular fashion, whereas the behavior of the red cells was more variable. No rule can be laid down in regard to the red cells.—*Brit. Med. Jour.*

#### NEWS AND MISCELLANY.

Expressed in time units, the distance between Cape May, N. J., and Philadelphia, is 100 Minutes—measured by the "Century Flyer" over the route of the South Jersey Railroad.

This, and like marked reductions in time to other points, in connection with the superior modern equipment, splendid service, and capable management maintained by the railroad, easily accounts for recent great increase of travel to the health resorts along the southern coast of New Jersey.

Some few years ago Dr. Clark, of London, wrote an exceedingly interesting and valuable monograph on the use of arsenic iodid in certain forms of heart disease. More recently Dr. Vierordt, of Heidelberg, has reported the effects of other iodids in his practice, notably sodium iodid and potassium iodid. The cases treated were in part subject to arterio-sclerosis, excluding those of pronounced cardiac weakness and albuminuria. From fifteen to thirty grains of iodid of soda a day was given in divided doses in milk or Seidlitz water. This after a time was followed by potassium iodid, in the form of Shadow's effervescent salt, one or the other being given for nine months and later at longer intervals. The effect on the arterio-sclerosis was especially marked in cases accompanied by cardiac distress, especially angina pectoris. It seemed to be but of little consequence whether the arterio-sclerosis was of syphilitic origin or not. Vierordt does not pretend to define the *modus operandi* of the iodids, but thinks the morbid process in the blood vessels is brought to a standstill so that the high-toned blood pressure is gradually lowered and therefore the normal circulating function re-established for a time. While this treatment seems to check vascular changes, there is no evidence that it restores the tissues to their normal condition.

—*N. Y. Med. Times.*

Dr. Frank P. Norbury, in the May number of the *Peoria Med. Jour.*, enumerates as follows the Symptomatic Difference Between Neuritis and Neuralgia: "In neuralgia the pain is paroxysmal, while in neuritis it is continuous. The pain of neuralgia may shift from one locality to another, while neuritis is localized, being in one nerve or group of peripheral nerves. In neuralgia anesthesia or motor paralysis does not follow, while in neuritis these become prominent and significant symptoms. In neuralgia no trophic changes involving the skin, nails or muscles follow, while in neuritis these are prominent symptoms in well marked cases."

Infusion of sage is again recommended (*Med. Week*) for the treatment of hyperhidrosis in tuberculous subjects as well as those suffering from leukemia, rheumatic polyarthritides and typhoid fever; in thirty-eight cases where it was tried there were only two failures. Steep forty-five grains of sage leaves in half a pint of water, and let the patient take a cupful in the morning, one during the course of the day, and still another before retiring at night, or the tincture of the leaves may be given in twenty-drop doses in the morning and from twenty to forty drops at night. *Salvia officinalis* has a proper place in the front rank of anti-sudorific remedies.